

**The Long-Term Implications of Current Defense Plans:
Detailed Update for Fiscal Year 2007 (April 2007)**

List of Briefing Slides

Introduction

Figure 1-1 Updated:	Past and Projected Spending for Defense
Figure 1-2 Updated:	Defense Spending as a Share of the Gross Domestic Product
Figure 2-1 Updated:	Spending for Operation and Support, by Functional Category
Figure 2-2 Updated:	Spending for Operation and Support, by Military Department
Figure 2-3 Updated:	Spending for Operation and Support, by Account
Figure 2-4 Updated:	Spending for Operating Forces, by Military Department
Figure 2-5 Updated:	Spending for the Military Medical System, by Category
Figure 3-1 Updated:	Spending for Investment, by Budget Account and Weapon Type
Figure 3-2 Updated:	Spending for Investment, by Military Department
Figure 3-3 Updated:	Past and Projected Army Spending for Investment
Figure 3-4 Updated:	Procurement of Army Ground Combat Vehicles
Figure 3-5 Updated:	Age and Inventory of Army Ground Combat Vehicles
Figure 3-6 Updated:	Procurement of Army Helicopters
Figure 3-7 Updated:	Age and Inventory of Army Helicopters
Figure 3-9 Updated:	Past and Projected Navy and Marine Corps Spending for Investment
Figure 3-10 Updated:	Procurement of Battle Force Ships
Figure 3-11 Updated:	Age and Inventory of Battle Force Ships
Figure 3-12 Updated:	Procurement of Navy Fighter and Attack Aircraft
Figure 3-13 Updated:	Age and Inventory of Navy Fighter and Attack Aircraft
Figure 3-14 Updated:	Procurement of Marine Corps Helicopters
Figure 3-15 Updated:	Age and Inventory of Marine Corps Helicopters
Figure 3-16 Updated:	Procurement of Marine Corps Ground Combat Vehicles
Figure 3-17 Updated:	Age and Inventory of Marine Corps Ground Combat Vehicles
Figure 3-19 Updated:	Past and Projected Air Force Spending for Investment
Figure 3-20 Updated:	Procurement of Air Force Fighter and Attack Aircraft
Figure 3-21 Updated:	Age and Inventory of Air Force Fighter and Attack Aircraft
Figure 3-22 Updated:	Procurement of Air Force Bombers
Figure 3-23 Updated:	Age and Inventory of Air Force Bombers
Figures 3-24 and 3-26 Updated:	Procurement of Air Force Airlifters and Tankers

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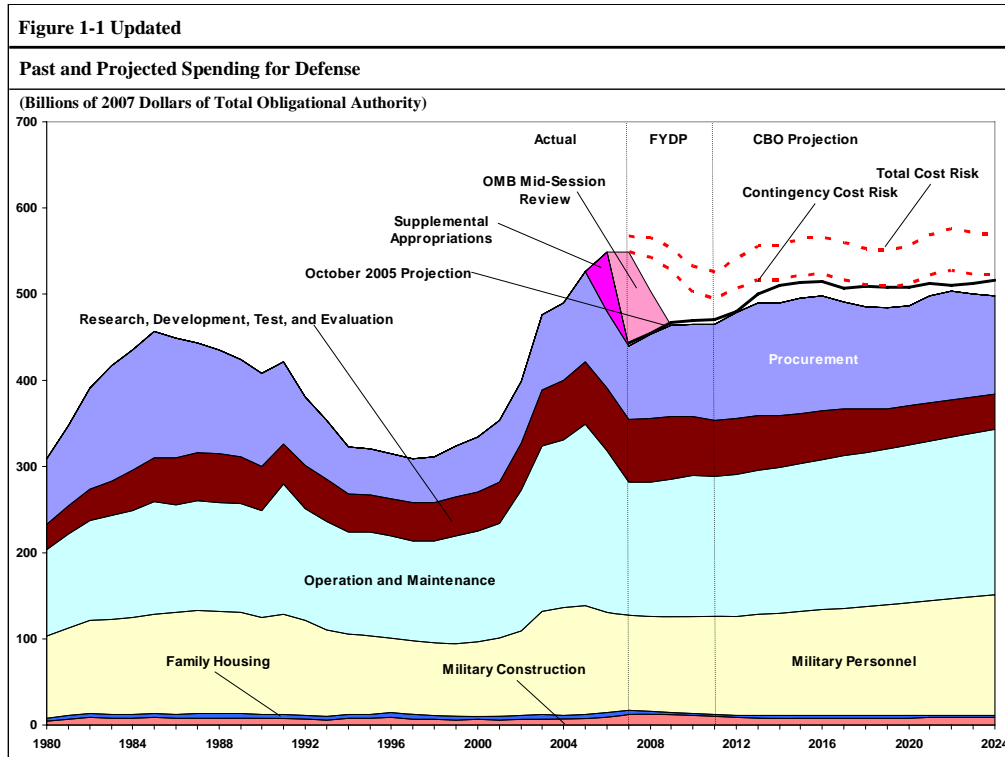
Figure 3-25 Updated:	Age and Inventory of Air Force Airlifters
Figure 3-27 Updated:	Age and Inventory of Air Force Tankers
Figure 3-29 Updated:	Past and Projected Investment Spending for Defense Agencies
Figure 3-30 Updated:	Past and Projected Investment Spending for Missile Defense
Appendix:	Acronyms and Abbreviations

The Long-Term Implications of Current Defense Plans:

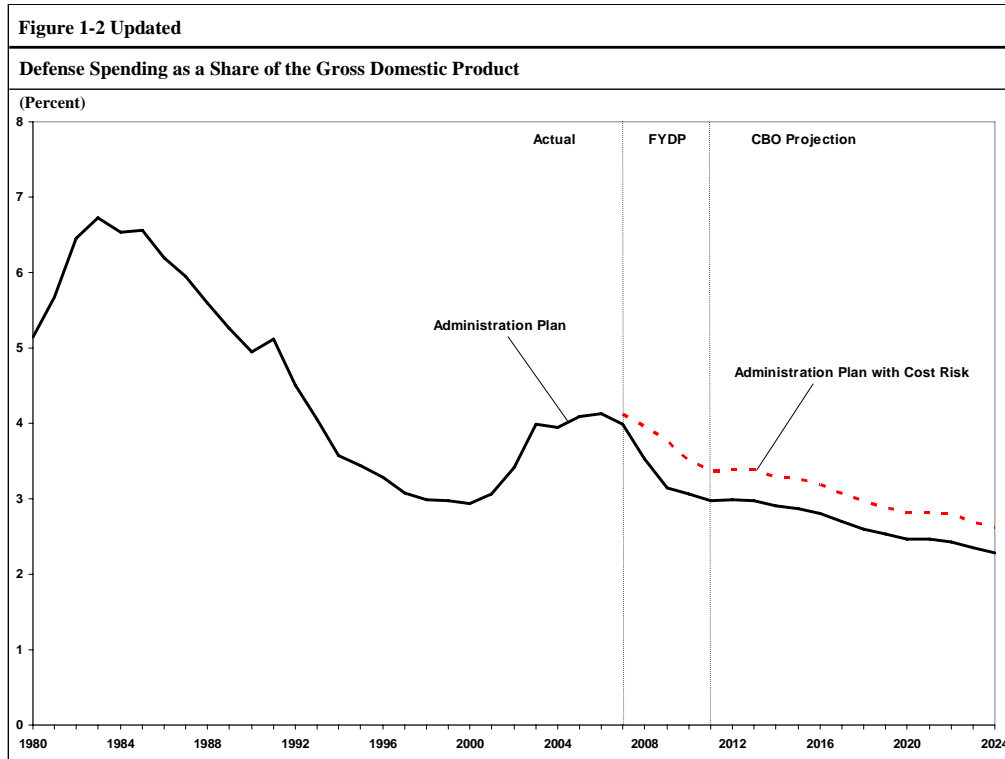
Detailed Update for Fiscal Year 2007

All Costs in Billions of 2007 Dollars

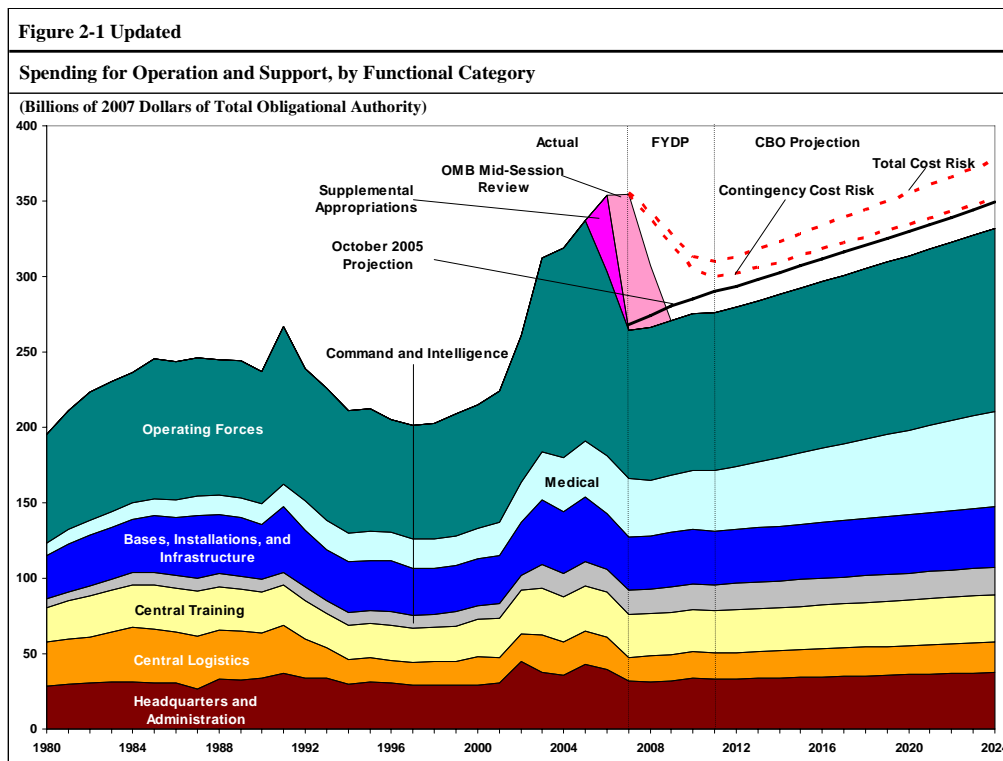
- This presentation updates the analysis of current defense plans contained in the Congressional Budget Office's (CBO's) January 2006 Web document *The Long-Term Implications of Current Defense Plans and Alternatives: Detailed Update for Fiscal Year 2006* to account for changes incorporated in the President's budget for fiscal year 2007 and in the 2007 Future Years Defense Program (FYDP). The briefing provides additional data not found in CBO's October 2006 publication *Long-Term Implications of Current Defense Plans: Summary Update for Fiscal Year 2007*. Both of those documents respond to a standing request by the Ranking Member of the Senate Budget Committee.
- This presentation does not incorporate changes to the FYDP resulting from Congressional action on the President's 2007 budget request.
- Charts in this detailed update use the concepts "steady state" and "half-life" for the Department of Defense's (DoD's) investment plans and weapon systems. Those concepts are explained more fully in Box 1-3 of CBO's January 2003 study *The Long-Term Implications of Current Defense Plans*. (The projections in that report are based on the 2003 FYDP.)
- The updated displays in this presentation differ in some instances from those in previous briefings. In some cases, CBO has altered the display format to include additional historical data; in other cases, it has revised its historical database of procurement quantities and spending. CBO also, in many instances, departs from previous briefings by using different color schemes for the displays.
- Because of changes in CBO's methodology, not all of the charts presented in CBO's previous studies are updated in this presentation.
- All budgetary projections in this presentation are in billions of 2007 dollars, and all years are federal fiscal years. Numbers in the text may not sum to totals because of rounding. See the appendix at the end of the briefing for an explanation of selected acronyms and abbreviations.



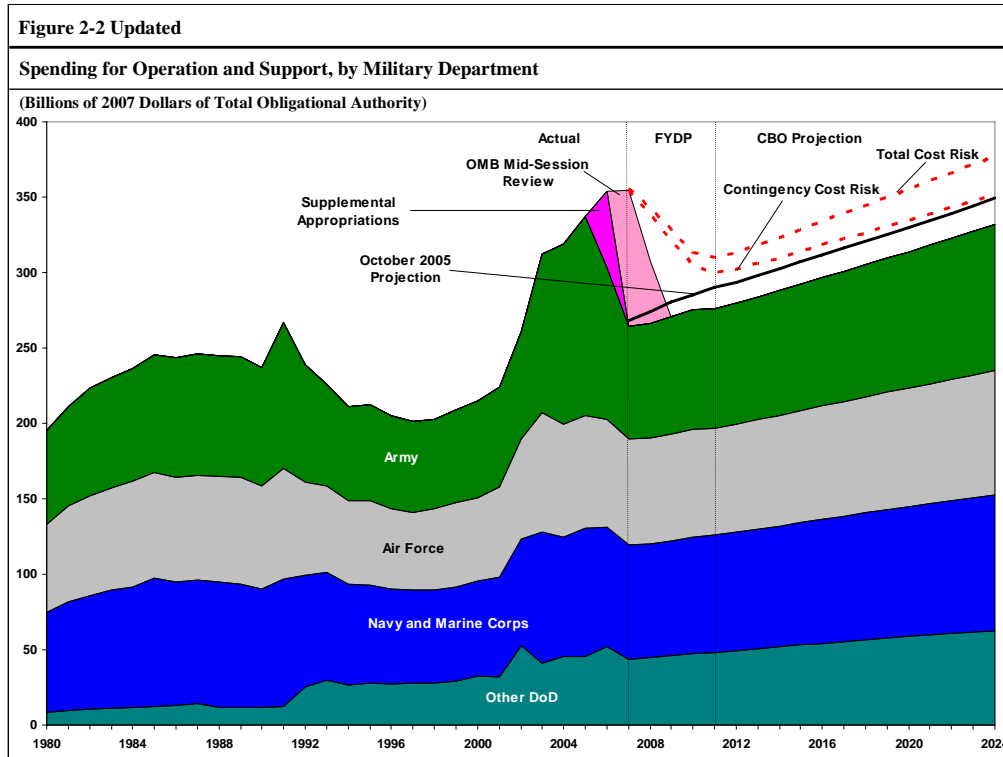
- This chart shows total obligatory authority (TOA) for the Department of Defense for the 1980–2024 period. TOA for defense grew rapidly between the early and mid-1980s, reaching a peak of \$457 billion in 1985 (all funds are in 2007 dollars). TOA then generally declined during the late 1980s and into the 1990s, reaching a low point of about \$309 billion in 1997. DoD's TOA began to rise thereafter, reaching \$353 billion by 2001. It has grown even more rapidly in recent years as U.S. forces have become engaged in operations in Afghanistan and Iraq. In 2006, DoD's TOA reached \$549 billion, including \$120 billion to fund those operations (\$70 billion in supplemental appropriations and \$50 billion provided as part of the Department of Defense Appropriations Act, 2006).
- The President anticipates \$110 billion and \$50 billion in additional supplemental funding for DoD in 2007 and 2008, respectively (see Office of Management and Budget [OMB], *Fiscal Year 2007 Mid-Session Review: Budget of the U.S. Government*, July 11, 2006). The 2007 FYDP does not include that funding.
- The 2007 FYDP—on which CBO based the projections shown in this briefing—anticipated that defense resources (excluding supplemental appropriations) would rise from \$439 billion for 2007 to \$465 billion for 2011.
- If the program in the 2006 FYDP was carried out as currently envisioned, the demand for defense resources, excluding resources for contingencies, would average \$492 billion a year between 2012 and 2024, CBO projects—or about \$53 billion more than the 2007 request.
- CBO also made “cost-risk” projections (shown by the dashed red lines in the figure). CBO projects that resource demands including cost risk will average about \$549 billion a year through 2011 and about \$560 billion between 2012 and 2024. Those values are about 20 percent and 14 percent higher, respectively, than the amounts without cost risk. Assumptions underlying the cost-risk projections include the following:
 - Costs for weapons programs grow as they have since the Vietnam War; and
 - The United States continues to conduct military operations overseas as part of the global war on terrorism (represented as “Contingency Cost Risk” in the figure).



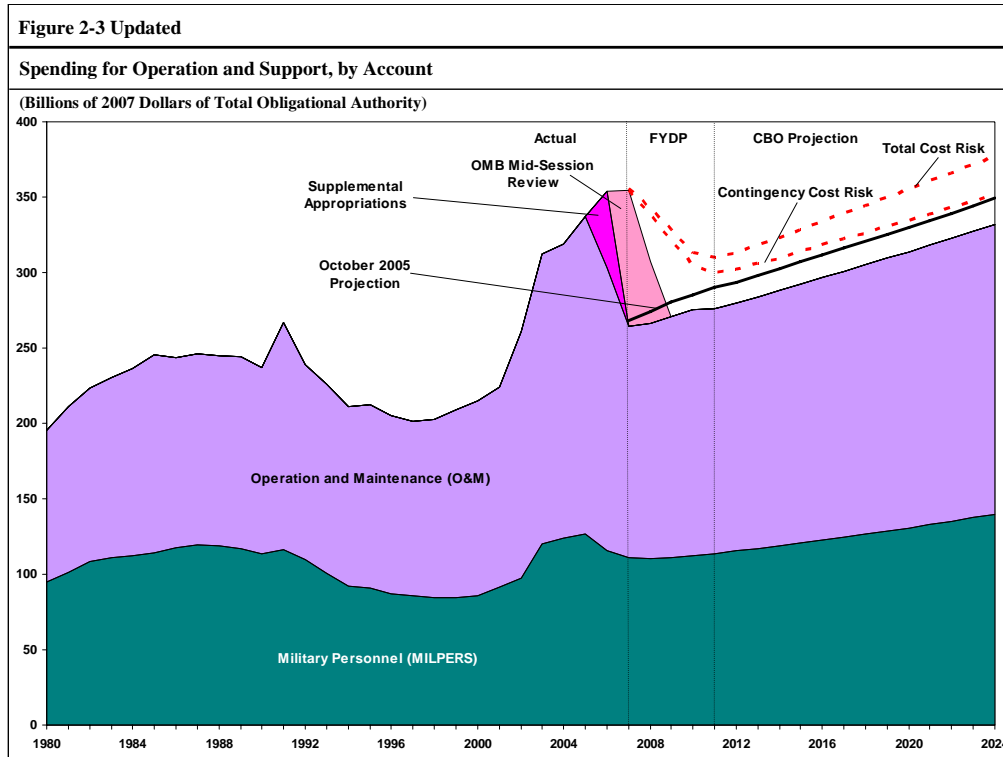
- This chart compares past and projected spending for DoD with the size of the U.S. economy.
- DoD's spending measured as a share of gross domestic product (GDP) grew through the early 1980s, reaching a high point in 1983, and declined thereafter, reaching a low point in 2000 and then growing again through 2006. Thereafter, DoD spending as a percentage of GDP begins a steady gradual decline. That drop occurs because projected real (inflation-adjusted) increases in GDP outpace projected increases in defense outlays with and without cost risk.



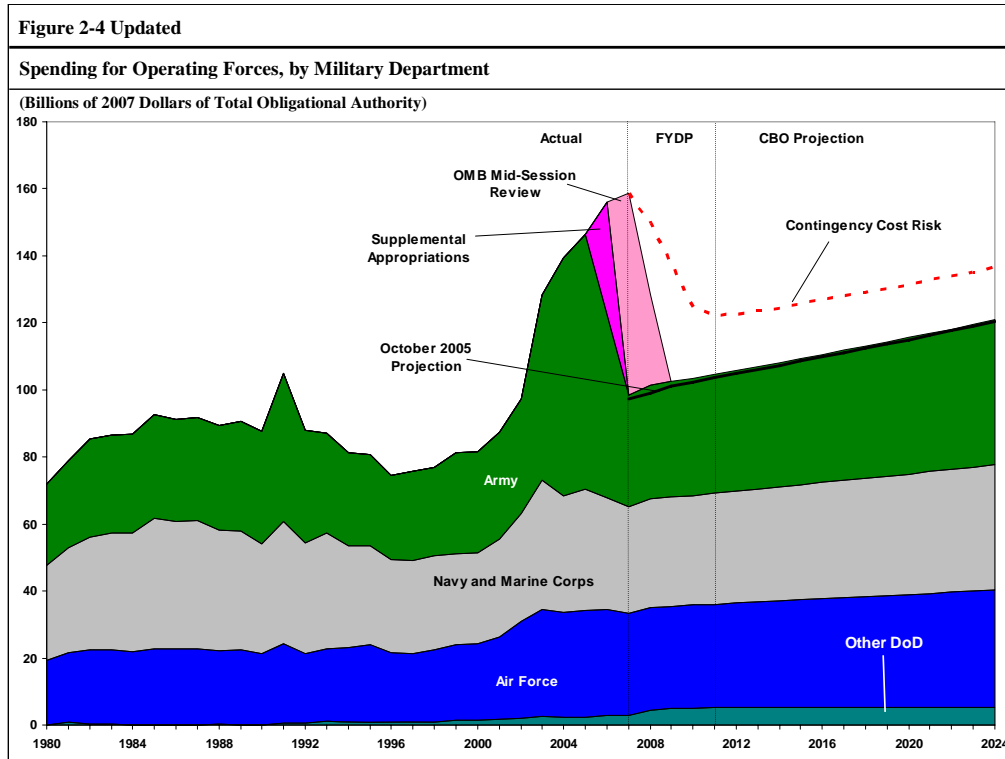
- This chart shows the operation and support (O&S) budget, which accounts for about 60 percent of defense spending and pays for DoD's day-to-day operations as well as for military and civilian payrolls. CBO created subcategories of O&S spending based on force and infrastructure codes used within DoD. O&S spending will reach \$331 billion in 2024 not including cost risk, CBO projects.
- Most of the projected growth in O&S spending results from the growing cost of medical benefits for military personnel and from rising wages for both military and civilian personnel.
- As the dashed red lines in the figure show, growth in the demand for O&S resources could be greater than DoD anticipates. CBO estimates that with cost risk, the O&S budget might reach \$377 billion in 2024. Cost risks include the following:
 - Continued involvement in contingency operations associated with the global war on terrorism, such as those in Afghanistan, Iraq, and elsewhere (that risk decreases to about \$20 billion in 2024);
 - Faster-than-expected growth in DoD's health care costs (\$19 billion of risk in 2024); and
 - A permanent increase of 15,000 in the Army's end strength (\$2 billion of risk in 2024). The Administration has since announced plans to permanently increase the size of the Army and Marine Corps by 65,000 and 27,000 active-duty personnel, respectively, over the next 5 years.
- Increases in military and civilian pay account for all of CBO's projected spending growth in every subcategory except "Operating Forces" (Figure 2-4) and "Medical" (Figure 2-5). CBO projects that those pay levels will grow at the same rate as the employment cost index (ECI), a measure of the average pay level in the U.S. civilian economy.
- In comparison with last year's FYDP, the 2007 FYDP shows an average reduction in total O&S spending of over 3 percent. The reasons for that reduction include the following:
 - DoD's 2007 FYDP projections for medical spending do not incorporate all likely sources of growth in spending per beneficiary; and
 - The 2007 FYDP, consistent with recommendations from the Quadrennial Defense Review, projects cumulative declines in end strength for the active-duty Air Force, Air National Guard, and Air Force Reserve.



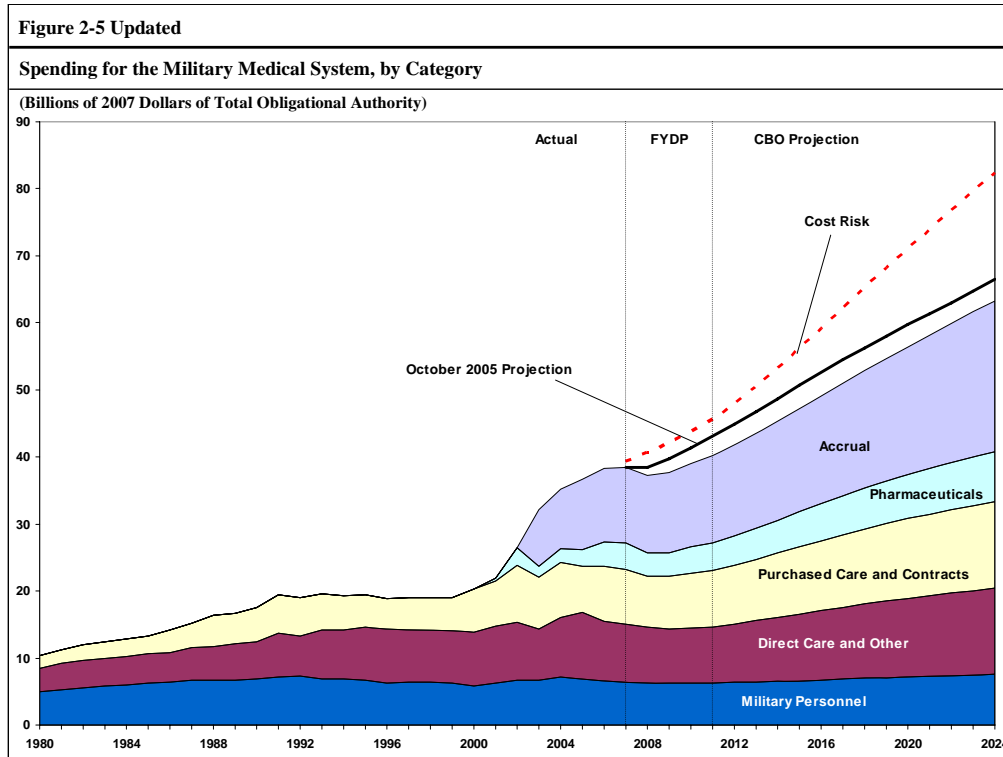
- Between 2007 and 2011, the Departments of the Army, Navy, and Air Force will receive approximately 29, 28, and 26 percent of the O&S budget, respectively. Defense-wide activities (labeled “Other DoD” in the figure), including the Defense Health Program, make up the rest of the O&S budget.
- CBO projects that for every department, average annual O&S spending will grow at a rate of between 1.1 percent and 2.0 percent from 2011 to 2024.
- The Army has received the largest proportion of supplemental contingency funding for current operations.



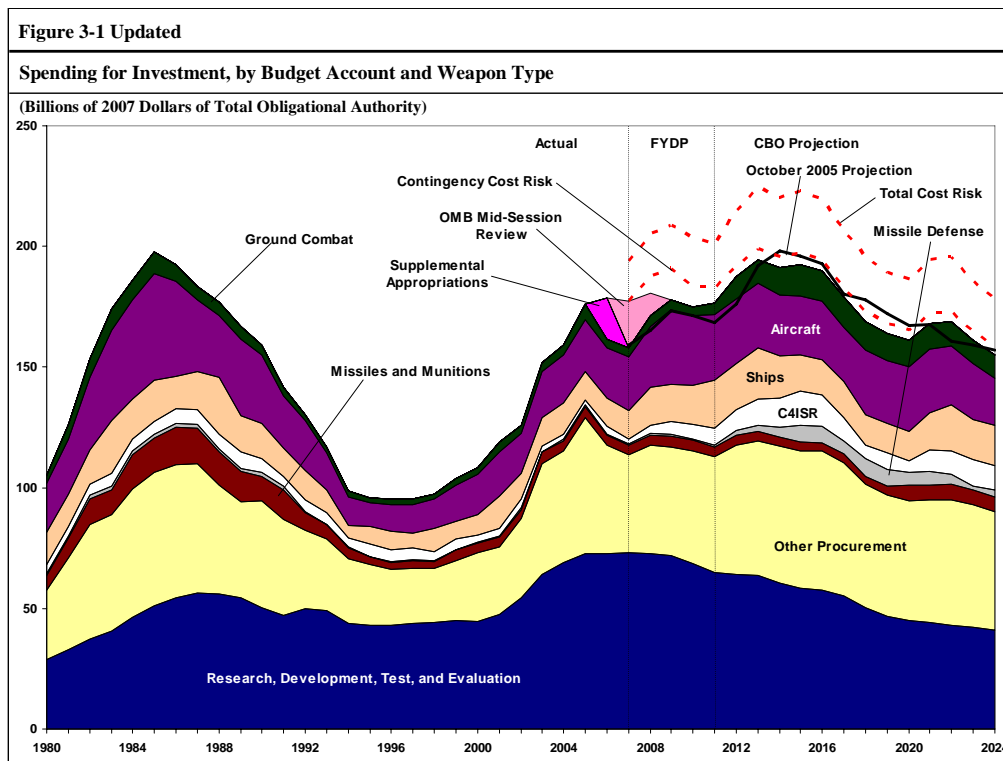
- CBO projects that military personnel spending will increase from \$114 billion in 2011 to \$140 billion in 2024, an average annual growth rate of 1.6 percent. That growth is attributable to two factors:
 - CBO's assumption, consistent with DoD's planning documents, that military pay raises must keep pace with the ECI; and
 - CBO's assumption, which is consistent with that of DoD's actuaries, that medical accrual costs will steadily increase. Those costs are intended to fund future medical spending for military retirees and dependents—when they reach age 65.
- Operation and maintenance (O&M) spending will increase from \$162 billion in 2011 to \$192 billion in 2024, an average annual growth rate of 1.3 percent. Most of that growth comes from:
 - The assumption that DoD must provide civilian employees with pay raises equivalent to the ECI; and
 - Rising medical costs associated with the Defense Health Program.
- Most supplemental funding for operations in Iraq, Afghanistan, and elsewhere is allocated to O&M.



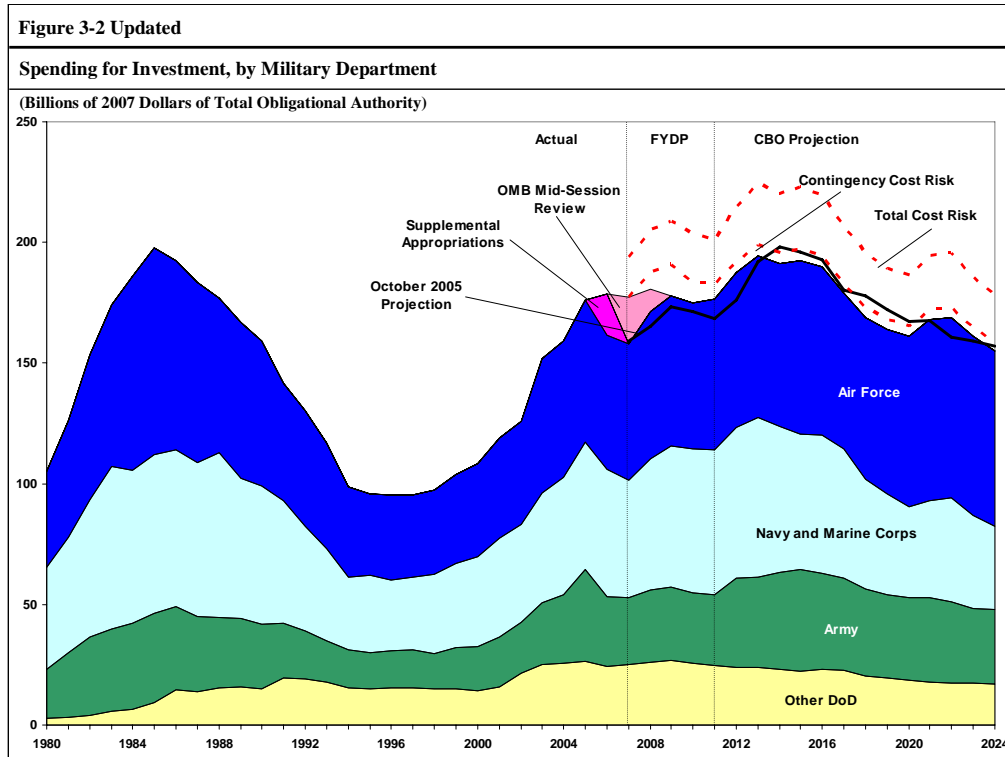
- The O&S subcategory “Operating Forces” pays for military and support units assigned to Combatant Commands.
- CBO projects that the Operating Forces category will experience \$5 billion of spending growth between 2011 and 2024, in addition to pay increases. That extra growth results from:
 - Continuing long-term trends of rising O&M costs per active-duty service member in the Army and Marine Corps ground forces;
 - Increased O&M costs for aging weapon systems; and
 - New weapon systems that are more complex and have higher O&M costs than the systems they replace.
- CBO estimates that the Operating Forces category receives about two-thirds of all O&S supplemental contingency funding. Therefore, CBO has allocated about two-thirds of O&S contingency cost risk to the category.



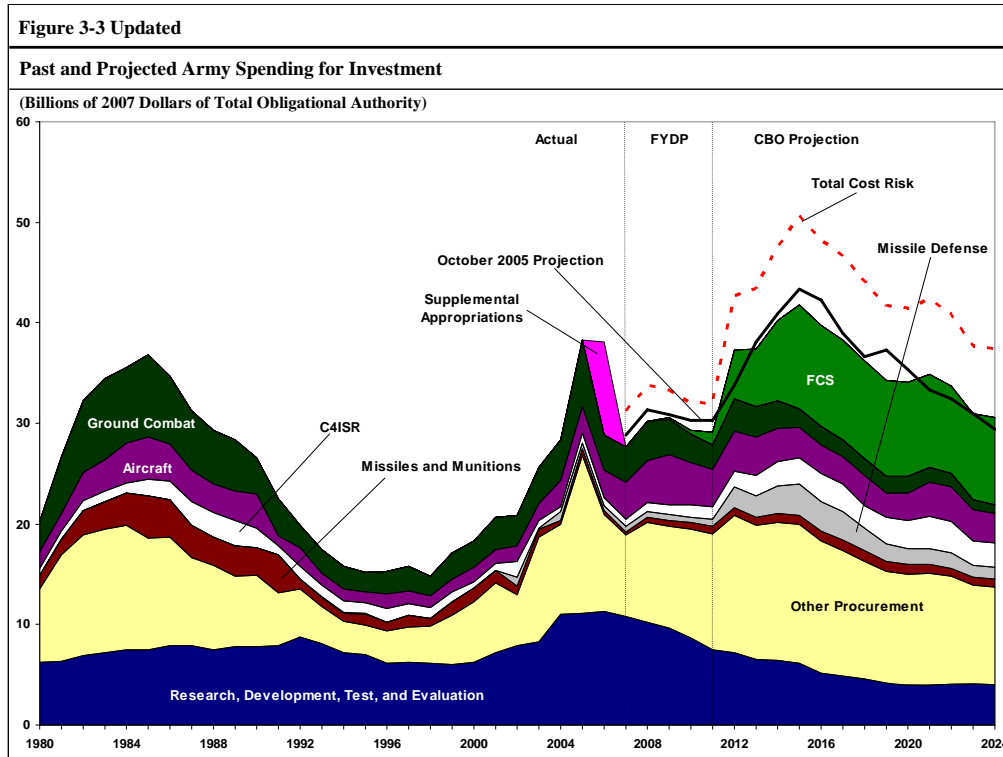
- CBO estimates that total real medical spending will increase by 65 percent, from \$38 billion in 2007 to more than \$63 billion by 2024. Real medical spending including cost risk could more than double, exceeding \$82 billion by 2024, CBO projects.
- Accrual payments for beneficiaries over age 65 will make up more than 45 percent of the increase in medical spending. CBO's projection indicates that by 2024, accrual payments will be more than twice as large in real terms as they are currently, reaching a total of \$22.6 billion.
- Pharmaceutical expenditures are projected to nearly double, from \$3.9 billion in 2007 to \$7.4 billion in 2024; with cost risk included, real drug expenditures will more than triple, to \$12.2 billion in 2024.
- Purchased care and private-sector contracts are projected to grow by 57 percent in real terms, from \$8.3 billion in 2007 to \$12.9 billion in 2024. Spending in that category including cost risk could increase by 127 percent in real terms, reaching \$19.3 billion in 2024.
- The category that comprises the military's direct-care system and other medical spending is projected to grow by 50 percent in real terms, from \$8.6 billion in 2007 to \$12.8 billion in 2024. If costs grew more quickly than DoD has anticipated, spending in that category could rise by 124 percent in real terms, reaching \$20.8 billion in 2024.
- CBO anticipates that spending on uniformed medical personnel will grow by only 18 percent in real terms by 2024. CBO expects real spending in the military personnel category to grow from \$6.4 billion in 2007 to \$7.6 billion in 2024.
- The 2007 FYDP shows a decline in per capita medical spending in some categories for 2007 through 2009. Such declines in spending are unlikely, given recent trends in DoD medical costs, unless accompanied by fee increases or other major restrictions in the TRICARE benefit. CBO's projections with cost risk assume that per capita costs in those categories will instead grow at the rates DoD specified in its annual inflation guidance for those types of expenditures.



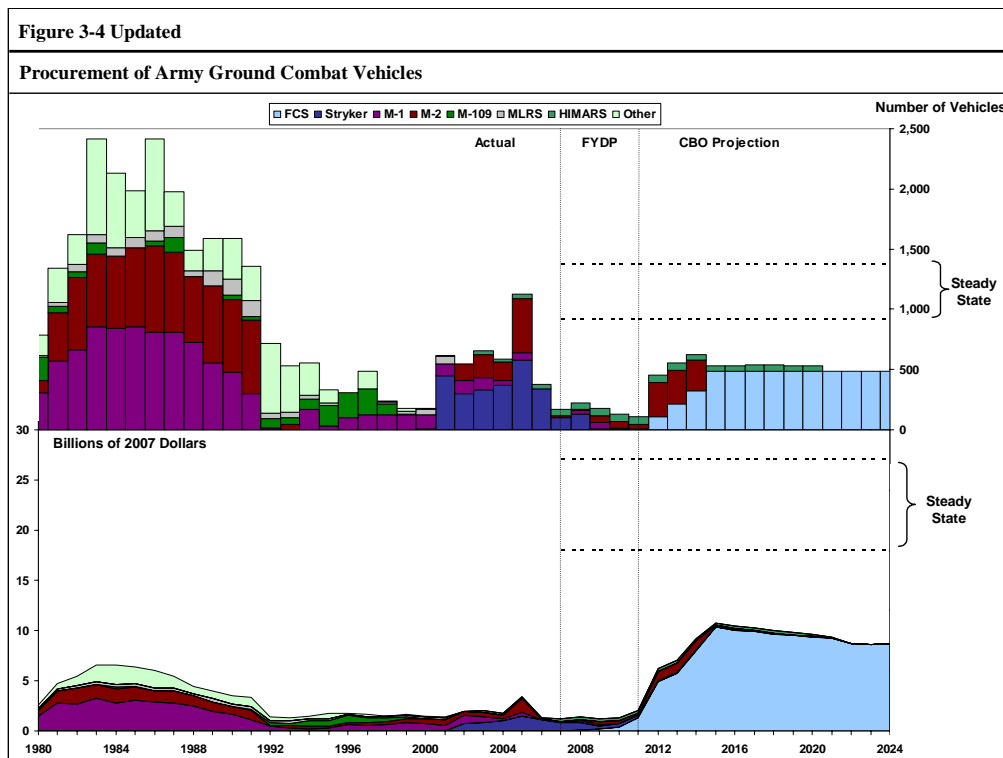
- This chart provides a breakout of the more than one-third of DoD's budget (about \$158 billion in 2007) allocated to investment, which funds development and procurement of DoD's weapon systems.
- The 2007 FYDP anticipated that investment spending would grow to \$176 billion by 2011—about 12 percent more than in 2007. On the basis of that plan, CBO projects that if weapons costs do not grow as they have historically, investment resources will continue to increase, reaching about \$195 billion by 2013, and then decline. Over the 2012–2024 period, those resources would average about \$175 billion a year.
- If the costs of weapons grow in the future as they have over the past 30 years, resource requirements for planned purchases in 2011 (excluding contingency cost risk) could equal \$195 billion, or about 10 percent more than without cost growth. In that case, funding during the 2012–2024 period could average almost \$198 billion—about 13 percent more than without cost growth.
- The increase in this year's projection over the FYDP period, relative to CBO's October 2005 projection, is largely due to higher Air Force spending for investment and the removal of accounting credits from the investment budgets of defense agencies.



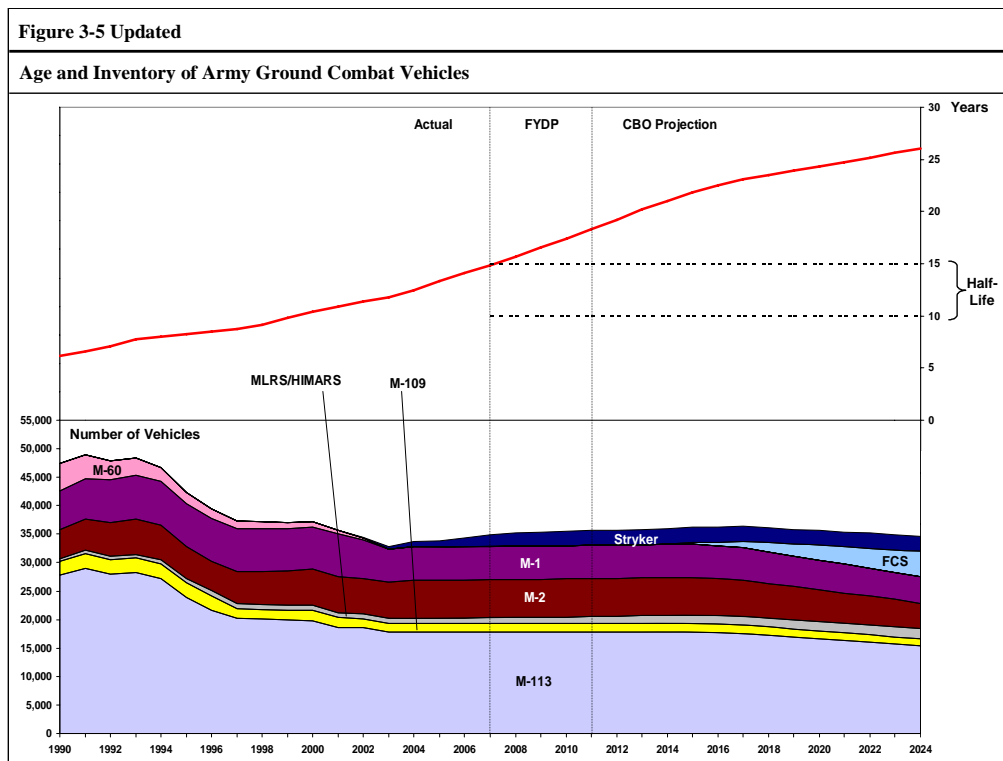
- During the period from 1980 to 2006, DoD's investment resources were distributed as follows:
 - Army investment averaged \$25 billion, or 18 percent of total DoD investment;
 - Navy and Marine Corps investment averaged \$48 billion, or 34 percent of the total;
 - Air Force investment averaged \$53 billion, or 38 percent of the total; and
 - Investment in other DoD activities averaged \$15 billion, or 11 percent of the total.
- During the period from 2007 to 2011, DoD anticipates allocating its investment resources as follows:
 - Army investment would average \$29 billion, or 17 percent of total DoD investment;
 - Navy and Marine Corps investment would average \$56 billion, or 33 percent of the total;
 - Air Force investment would average \$60 billion, or 35 percent of the total; and
 - Investment in other DoD activities would average \$26 billion, or 15 percent of the total.
- During the period covered by CBO's projection (2012 to 2024), DoD's investment resources would be distributed as follows:
 - Army investment would average \$36 billion, or 21 percent of total DoD investment;
 - Navy and Marine Corps investment would average \$52 billion, or 28 percent of the total;
 - Air Force investment would average \$69 billion, or 40 percent of the total; and
 - Investment in other DoD activities would average \$22 billion, or 12 percent of the total.



- This chart depicts the Army's past overall level of investment and future investment plans.
- On the basis of those plans, CBO projects that the Army's investment spending will exceed its previous (1985) peak of \$37 billion in 2012, reach a new peak of \$42 billion in 2015, average \$36 billion between 2012 and 2024, and then decline to about \$31 billion by 2024.
- If costs grew as they have in the past, however, the Army's investment spending could rise to a peak of about \$51 billion in 2015, average \$43 billion a year between 2012 and 2024, and then fall back to about \$37 billion annually by the end of the period.
- CBO's projection incorporates the assumption that the Army procures a maximum of 1.5 Future Combat Systems (FCS) brigades per year. The Army has since restructured that program so that the maximum procurement is one FCS brigade per year.
- Relative to the 2006 FYDP, the 2007 FYDP shows a decline in Army investment in the years 2007 through 2011. That decline is due to the Army's shifting of a portion of the funding for its modularity initiative from the regular budget to supplemental appropriations.



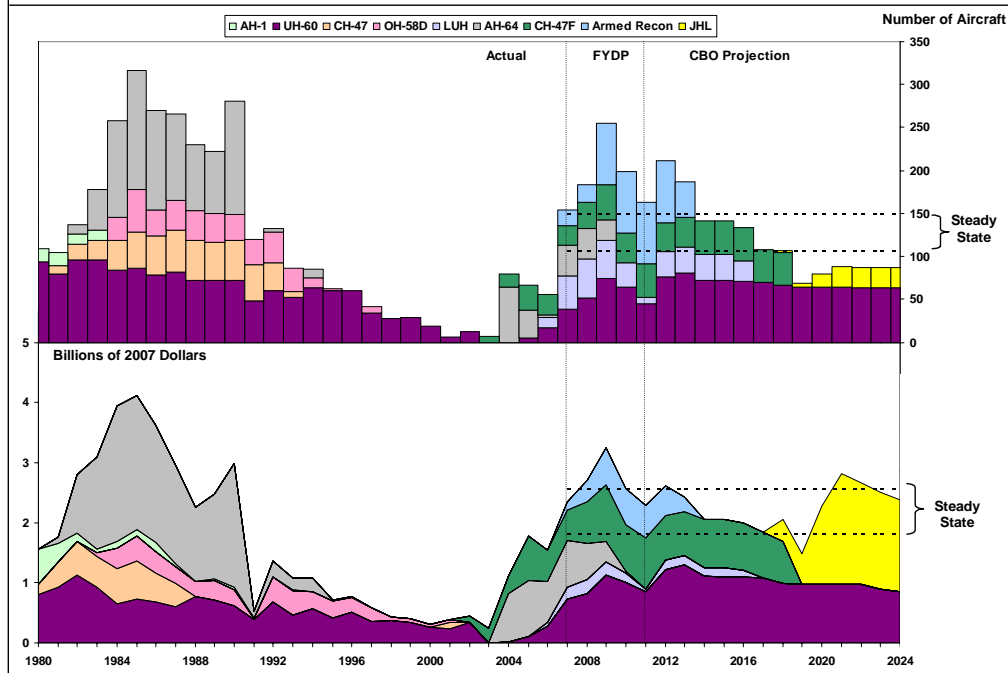
- This chart shows past and projected purchases of ground combat vehicles for the Army measured by the number of vehicles (the top part of the chart) and billions of 2007 dollars invested (the bottom part of the chart).
- The “Other” category includes vehicles such as the M-88 recovery vehicle, the field artillery ammunition supply vehicle, and the M-113 armored personnel carrier.
- This chart does not include the procurement of M-1 and M-2 ground combat vehicle upgrades (restoring those vehicles to like-new condition) funded by supplemental appropriations in 2006 and 2007.
- Annual purchases of ground combat vehicles during the 1990s averaged 480, or roughly one-third of the upper end of the range of steady-state purchases needed to sustain the fleet indefinitely.
- Under DoD’s 2007 FYDP and CBO’s projections of its implications, the FCS program—a key element of the Army’s transformation plans—would:
 - Purchase the first FCS vehicles for the Army’s brigades in 2012; and
 - Purchase enough FCS vehicles to equip 1.5 brigades a year beginning in 2015.
- The projected annual procurement rate of about 500 FCS vehicles would not be sufficient to maintain the combat vehicle fleet in a steady state.
- The Army’s 2007 plan, compared with the 2006 plan, reduces annual FCS procurement from a maximum of two brigades to 1.5 brigades.
- CBO’s projections for procurement of Army ground combat vehicles were based on the December 2005 Selected Acquisition Report (SAR) for the FCS program. Since that time, DoD has issued a new SAR showing that annual purchases have been further reduced to a maximum of one brigade per year.



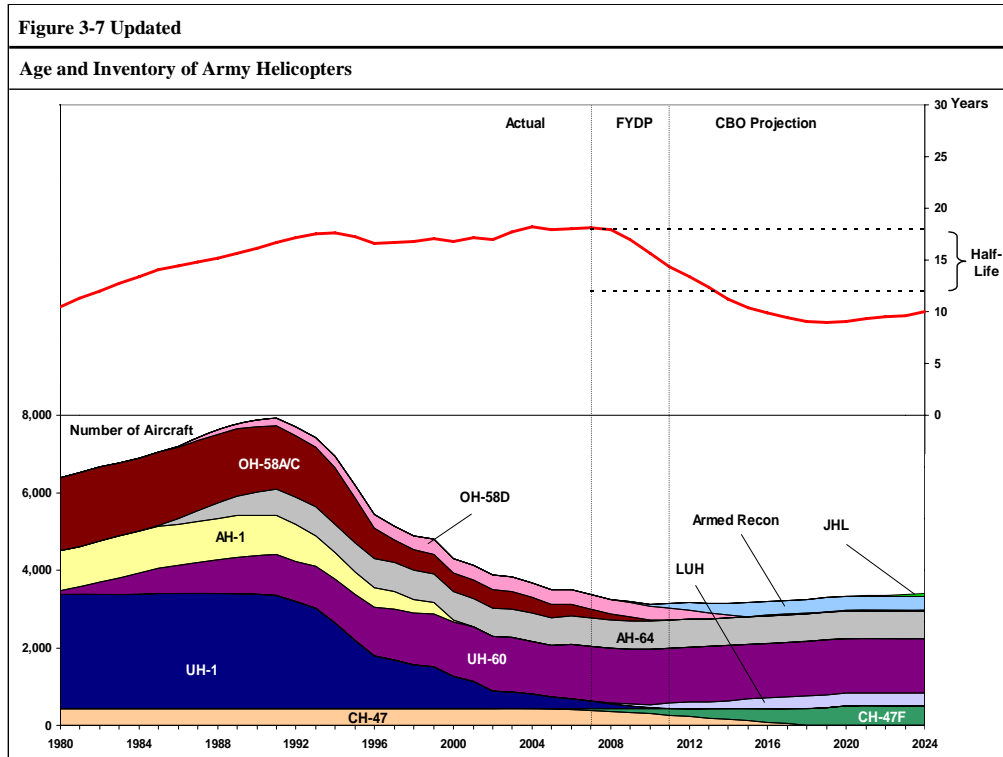
- This chart shows the average age of the Army's fleet of ground combat vehicles (the top part of the chart) and inventories of the various vehicle types (the bottom part of the chart). The inventories cover the total number of vehicles that the Army now retains and that have not been retired. Those inventories are larger than the numbers of vehicles, including spares, that are needed to equip the Army's active and reserve units. For example, CBO estimates that the Army's total inventory of M-1 Abrams tanks exceeds by about 40 percent the number of tanks it would need to equip its units if they were all converted to a modular design.
- The Army has not purchased enough combat vehicles during the past 14 years to prevent its ground combat fleet as a whole from aging. The fleet's average age has risen almost steadily since 1990: It is currently about 15 years—more than double what it was in 1990.
- Deliveries of new vehicles will be insufficient to affect such aging until FCS vehicles begin to enter the fleet in 2014, at which point the fleet's average age will begin to rise less rapidly. After that, the age of the fleet will continue to increase because the planned rates for procuring FCS components will be lower than the steady-state procurement rates that would arrest aging for the Army's entire inventory of ground combat vehicles—including vehicles that are not needed to equip its forces.

Figure 3-6 Updated

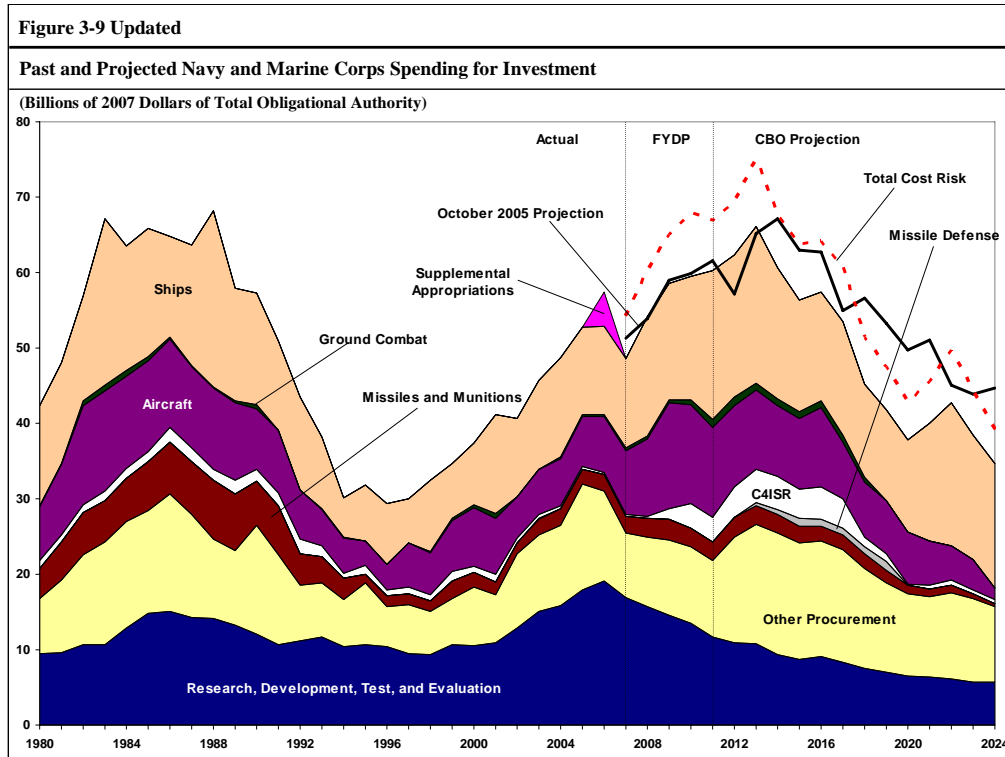
Procurement of Army Helicopters



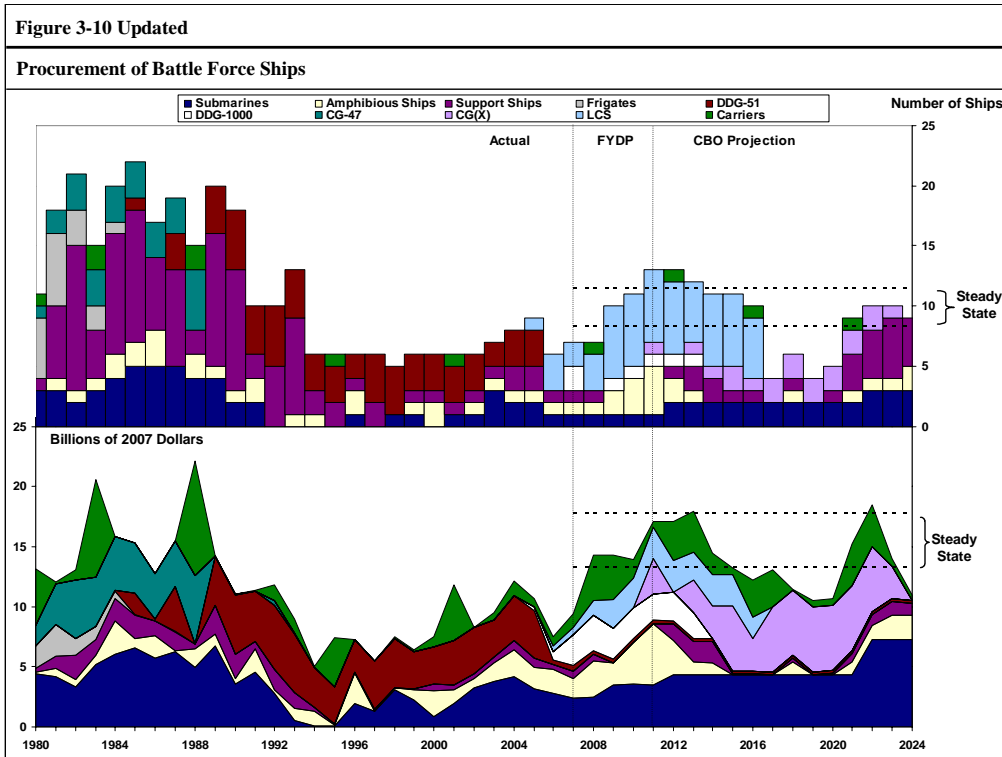
- This chart shows past and projected purchases of helicopters for the Army as measured by number of helicopters (the top part of the chart) and billions of 2007 dollars invested (the bottom part of the chart).
- The Army plans to increase its annual purchases of new and remanufactured helicopters from 154 in 2007 to 255 by 2009, with a corresponding increase in funding during that period. Annual purchases are then slated to decline, averaging 117 from 2012 to 2024.
- CBO's projection of Army investment includes the prospective Joint Heavy Lift (JHL) rotorcraft. The future of that program and its associated costs are uncertain because of technical challenges and ongoing discussions regarding the JHL's operational requirements.



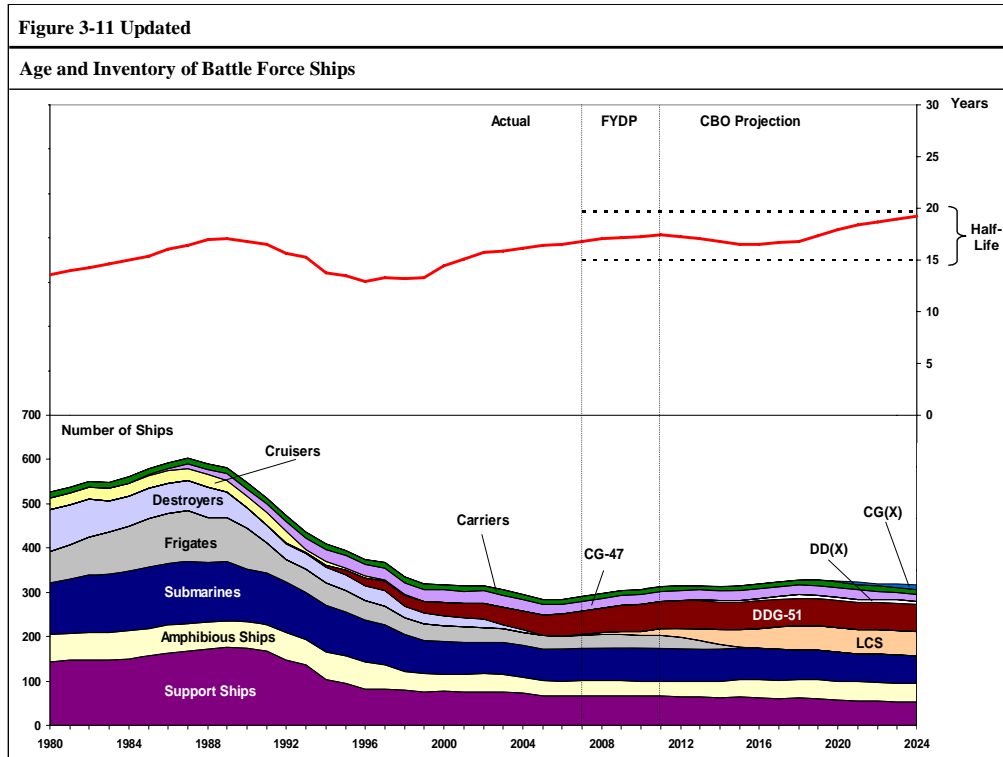
- This chart shows the average age of the Army's fleet of helicopters (the top part of the chart) and inventories of the various helicopter types (the bottom part of the chart).
- Although the Army has bought few new helicopters recently, it has retired a large number of older aircraft, reducing its total helicopter inventory to less than half of what it was in the late 1980s and early 1990s. Those retirements have allowed the average age of the helicopter fleet to remain within or close to the target half-life range.
- Beginning in about 2008, projected deliveries of new armed reconnaissance and utility helicopters will cause the average age of the fleet to stabilize, decline, and then stabilize again.



- This chart depicts the Navy's past overall level of investment and future investment plans.
- Under DoD's current plans, the Navy would increase investment from \$49 billion in 2007 to a peak of about \$66 billion in 2013. After that, investment resources would gradually decline—to \$35 billion by 2024—averaging about \$49 billion a year between 2012 and 2024.
- If costs grew as they have in the past, however, the Navy's investment spending could rise to a peak of about \$75 billion in 2013, average \$55 billion a year between 2012 and 2024, and then fall back to about \$39 billion annually by the end of the period.
- Under the President's budget, the Navy's planned annual shipbuilding would grow from 4 to 14 ships between 2007 and 2011. Under the 2006 FYDP, the Navy planned to buy 49 ships from 2006 to 2011. Under the 2007 FYDP, the Navy plans to buy 51 ships from 2007 to 2011.
- For 2007, the President has requested two large surface combatants, two littoral combat ships (LCSs), one attack submarine, one amphibious ship, and one support ship. In March 2007, the Navy announced that it was going to cancel the two LCSs that were to be purchased in 2007 and use those ships' appropriated dollars to pay for cost overruns associated with the first four LCSs.
- The Marine Corps's plans for purchases through its procurement account have changed little from the 2006 FYDP to the 2007 FYDP. The service proposes to invest heavily in ground combat vehicles (such as the new Expeditionary Fighting Vehicle and the Future Light Combat Vehicle) to replace its current inventory of aging equipment, a plan that would require substantial resources over the next decade. CBO's projection does not incorporate recent changes to the Expeditionary Fighting Vehicle program resulting from significant problems with reliability that were discovered during vehicle testing.



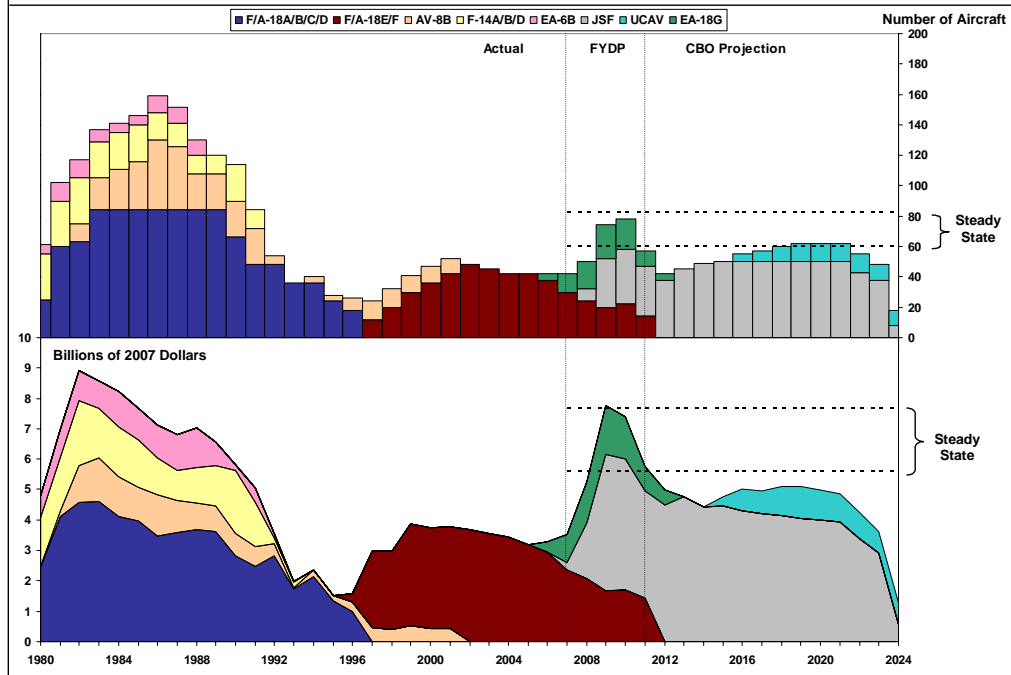
- This chart shows past and projected purchases of battle force ships for the Navy as measured by number of ships (the top part of the chart) and billions of 2007 dollars invested (the bottom part of the chart).
- CBO's projection anticipates an increase in ship purchases because of the Navy's plan to enlarge the fleet from about 276 ships today to 319 ships by 2024. Most of the planned expansion would occur in the surface combatant force, with the purchase of 55 littoral combat ships.
- Planned increases in the capabilities of LHA-6 and MPF(F) amphibious ships would also contribute to higher levels of funding for shipbuilding.
- The Navy anticipates that the CVN-21 aircraft carrier class will cost, on average, about \$2 billion more per ship than the Nimitz class that the CVN is replacing.
- Under the 2007 FYDP, the Navy plans to buy two DDG-1000s in 2007 and one per year between 2009 and 2011. It also plans to buy 23 LCSs between 2007 and 2011.
- Attack submarine purchases under the 2007 FYDP would continue at one per year through 2011 but increase to two per year thereafter.



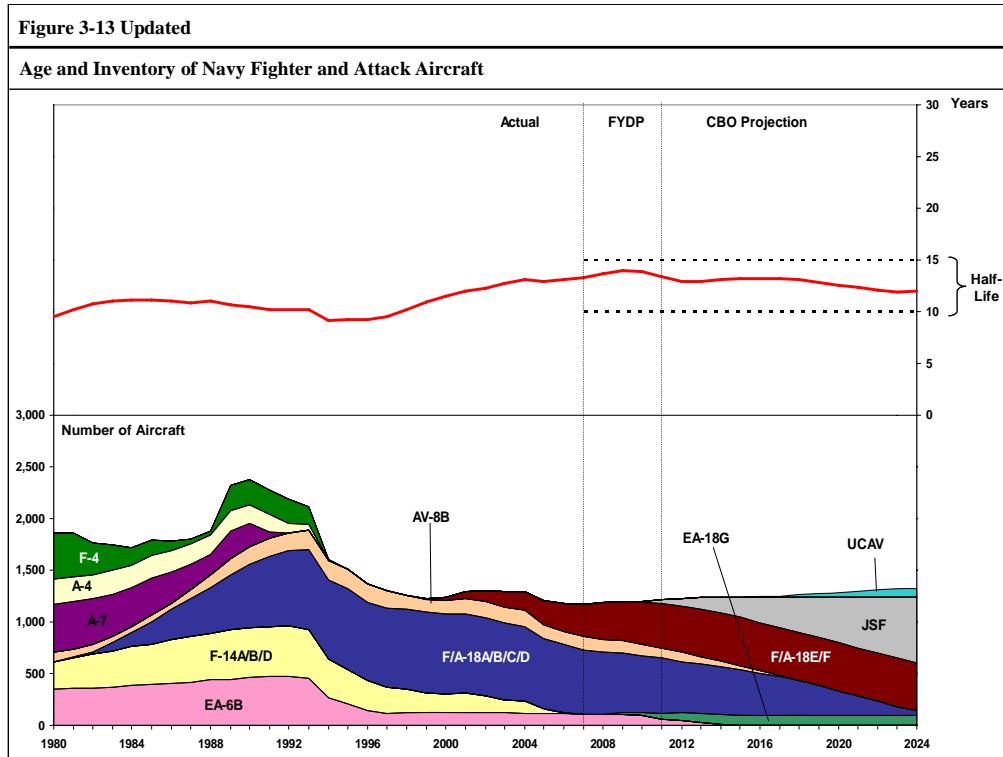
- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Navy's battle force ships.
- Beyond 2018, the average age of the Navy's ship fleet is projected to grow slightly, from 17 years to 19 years.

Figure 3-12 Updated

Procurement of Navy Fighter and Attack Aircraft



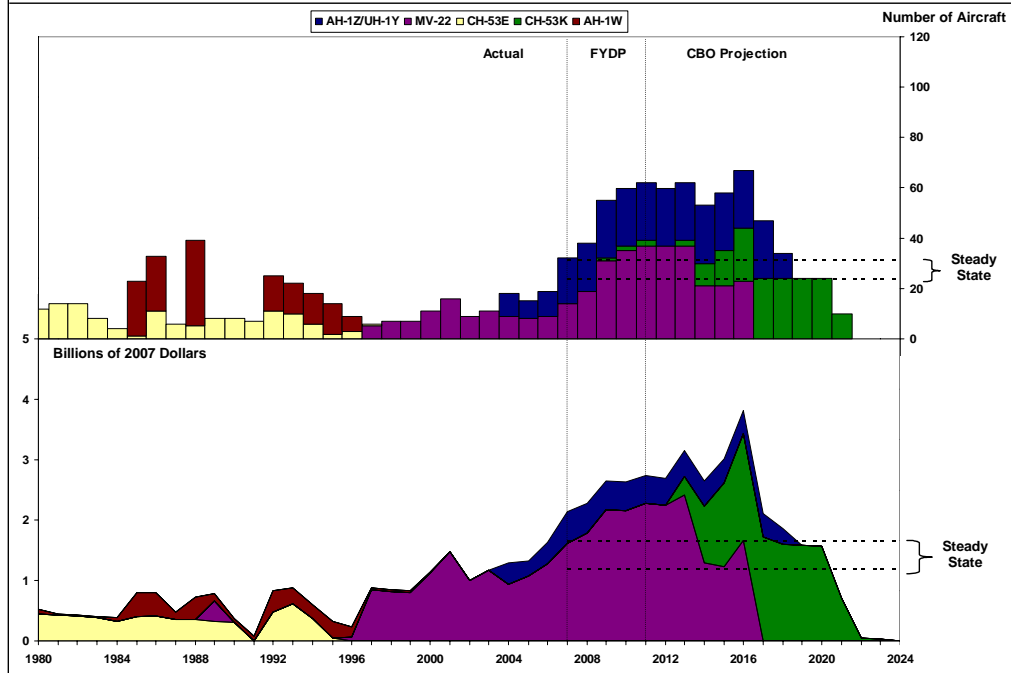
- This chart shows past and projected purchases of fighter and attack aircraft for the Navy and Marine Corps as measured by the number of aircraft (the top part of the chart) and billions of 2007 dollars invested (the bottom part of the chart).
- Spending for procurement of tactical fighters will average about \$4.9 billion a year (without cost risk) in the 2007–2024 period, CBO projects.
- Although in most years of the projection period, spending would be lower than that average, it would be substantially higher in 2009 and 2010 because of simultaneous purchases of F/A-18E/F, EA-18G, and Joint Strike Fighter (JSF) aircraft.
- CBO projects that from 2019 through 2021, the quantity of aircraft purchased will be within the steady-state range but the dollars expended on those aircraft will be below the steady-state range. That discrepancy is due to the expected purchases of EA-18Gs during that period, aircraft that are less costly, on a per-unit basis, than the JSFs.



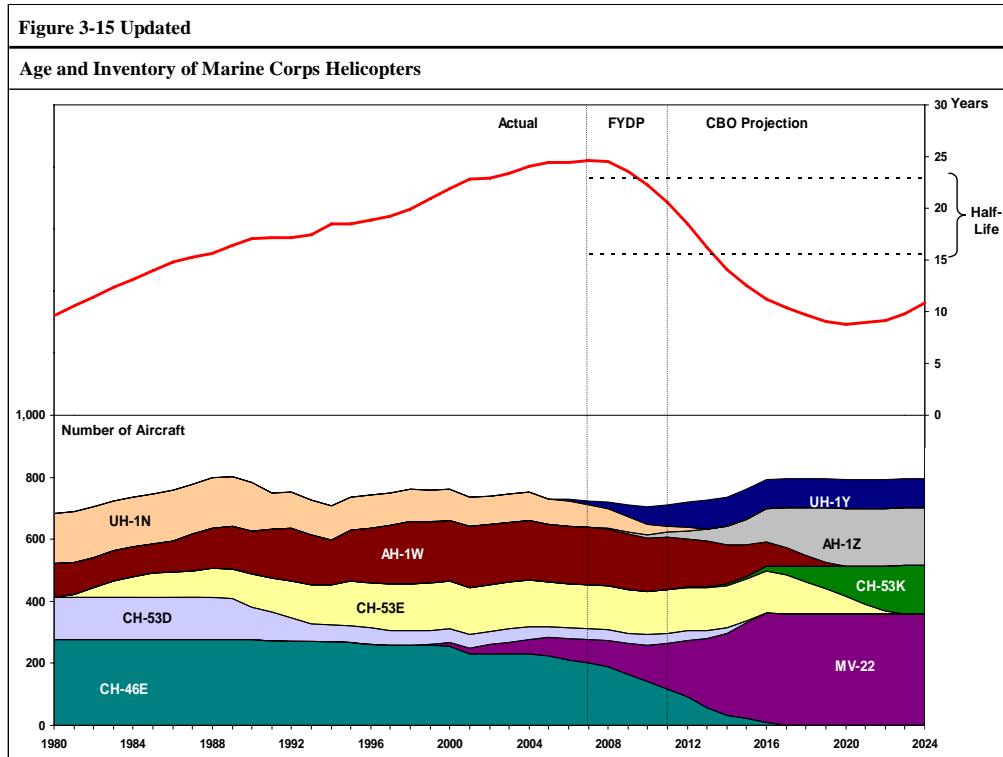
- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Navy's and Marine Corps's fighter and attack aircraft.
- If DoD's current plans are carried out, the average age of the Navy's fighter and attack aircraft fleet will remain within the target half-life range of 10 to 15 years throughout the 2007–2024 projection period.

Figure 3-14 Updated

Procurement of Marine Corps Helicopters



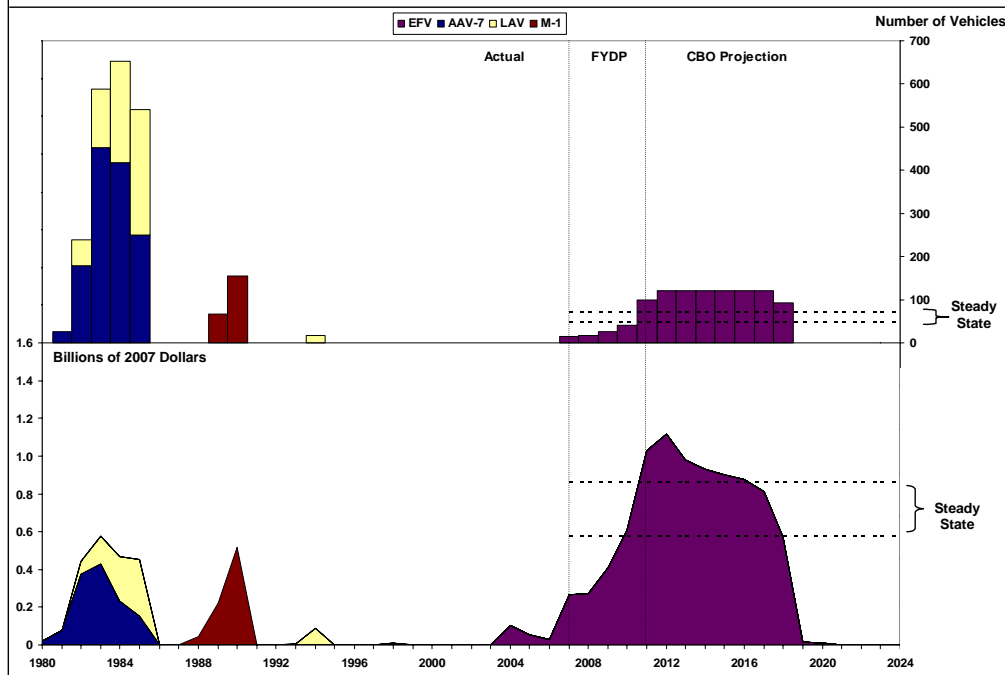
- This chart shows past and projected purchases of helicopters and tilt-rotor aircraft for the Marine Corps as measured by number of helicopters (the top part of the chart) and billions of 2007 dollars invested (the bottom part of the chart).
- Procurement of the V-22 tilt-rotor transport (to replace the existing CH-46) fleet and of the CH-53K (to replace the CH-53E fleet) accounts for about 85 percent of the funding projected for purchases of Marine Corps helicopters.
- CBO's projection of purchases of the AH-1Z/UH-1Y helicopters is based on the Marine Corps's February 2006 plans and does not reflect a recent restructuring of the program arising from technical delays and subsequent cost increases. The Marine Corps is also reassessing its planned purchase of 280 aircraft in light of an expected increase in end strength by 2011.



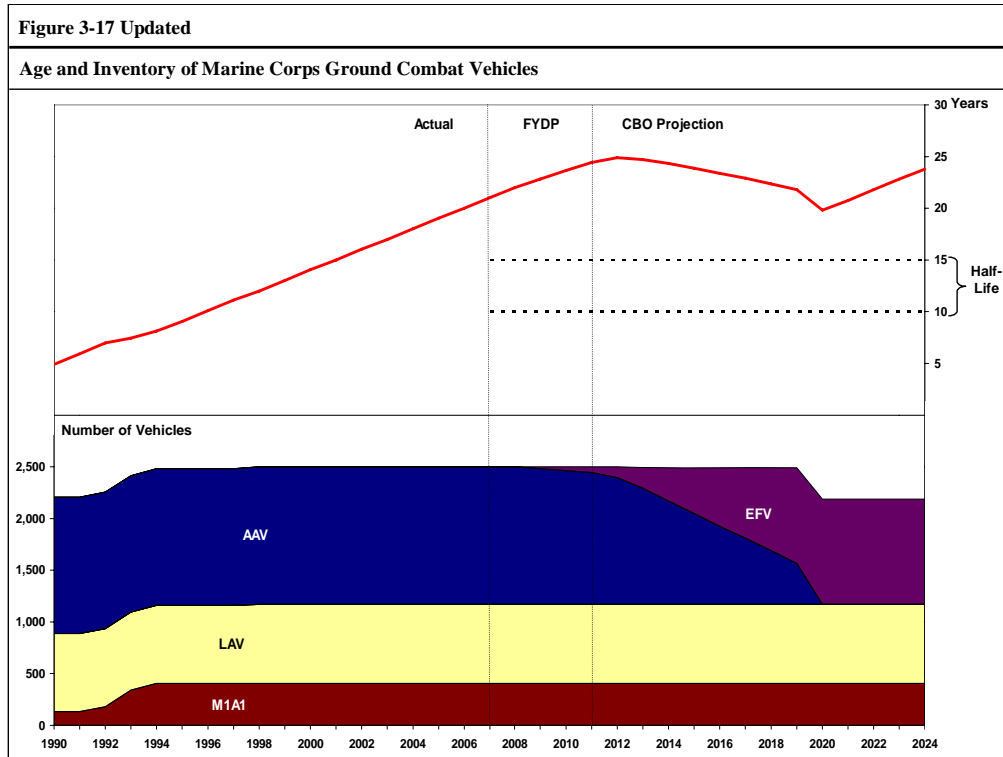
- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of helicopters and tilt-rotor aircraft for the Marine Corps.
- Under DoD's current plans, the average age of the Marine Corps's helicopter fleet would begin to decline rapidly toward the end of the 2007–2011 FYDP period as a result of an increase in deliveries of rebuilt and upgraded utility and attack helicopters and deliveries of the V-22 tilt-rotor aircraft.

Figure 3-16 Updated

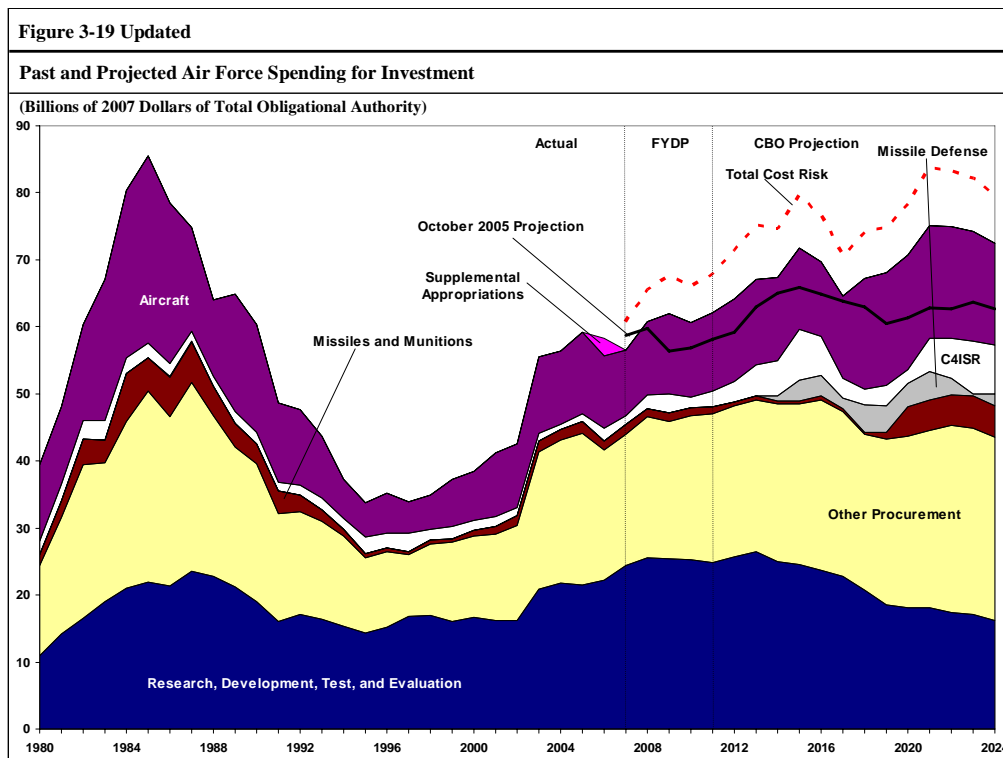
Procurement of Marine Corps Ground Combat Vehicles



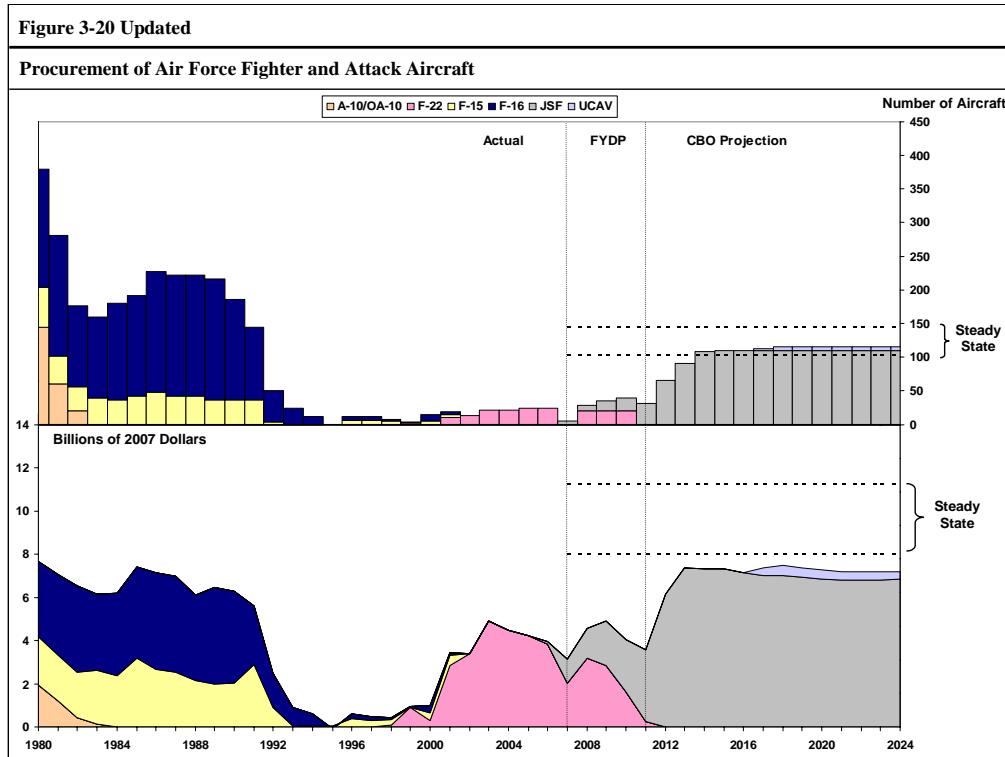
- This chart shows past and projected purchases of ground combat vehicles for the Marine Corps as measured by number of vehicles (the top part of the chart) and billions of 2007 dollars invested (the bottom part of the chart).
- Projected purchases of the new Expeditionary Fighting Vehicle (EFV), which will replace the existing fleet of amphibious assault vehicles, account for all of the procurement funding for new ground combat vehicles for the Marine Corps. CBO's projection does not incorporate recent changes to the EFV program resulting from problems with reliability that were discovered during vehicle testing.



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of ground combat vehicles for the Marine Corps.
- When deliveries of the Expeditionary Fighting Vehicle begin, the average age of the fleet will decline, reaching a minimum of about 20 years in 2020. At that time, EFV deliveries will end, and the retirement of the current fleet of advanced amphibious assault vehicles will be complete.



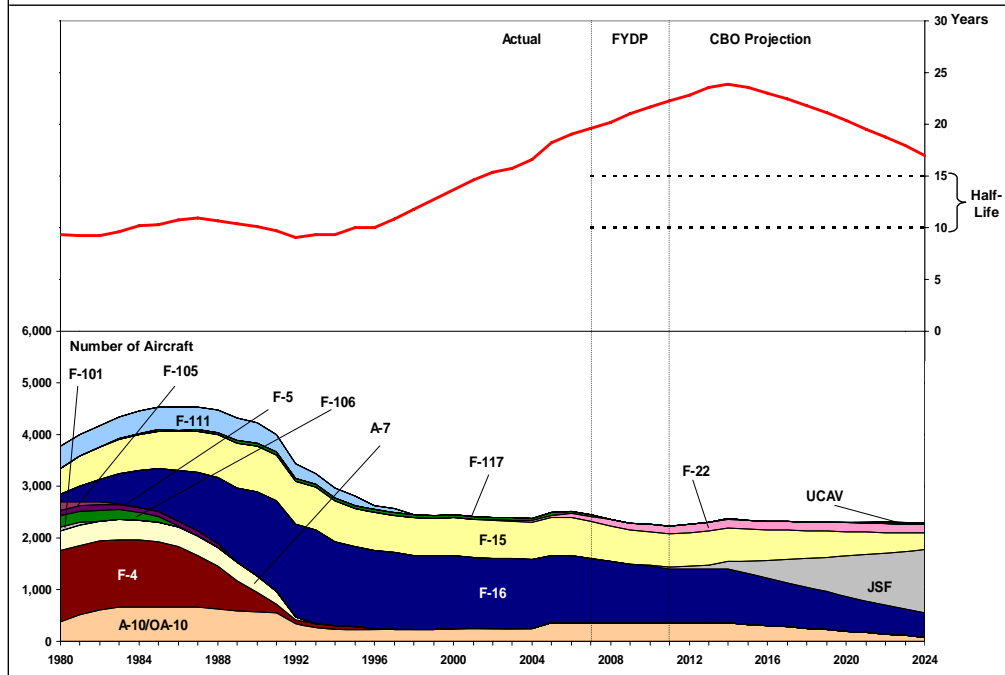
- This chart depicts the Air Force's past overall level of investment and future investment plans.
- The 2007 FYDP anticipates that Air Force investment will increase from \$57 billion in 2007 to \$62 billion in 2011. Under DoD's current plans, investment resources would average about \$70 billion a year between 2012 and 2024.
- If costs grew as they have in the past, however, the Air Force's investment spending could average \$77 billion a year between 2012 and 2024.
- CBO projects sustained increases in purchases of new tactical aircraft, reflecting continued production of the F-22 fighter through 2010 and the beginning of production of the Joint Strike Fighter. Relative to the 2006 FYDP, planned production of the F-22 under the 2007 FYDP slows to keep that production line open until the JSF production line is in operation.
- Developments that occurred in the Air Force's long-term planning during the period between the submission of the 2006 and 2007 FYDPs led to a substantial increase in CBO's projection for investment beyond 2011. Changes included the introduction of a new Light Cargo Aircraft program, accelerated plans for fielding a new long-range strike aircraft, and cost increases in programs such as that for the Joint Strike Fighter.



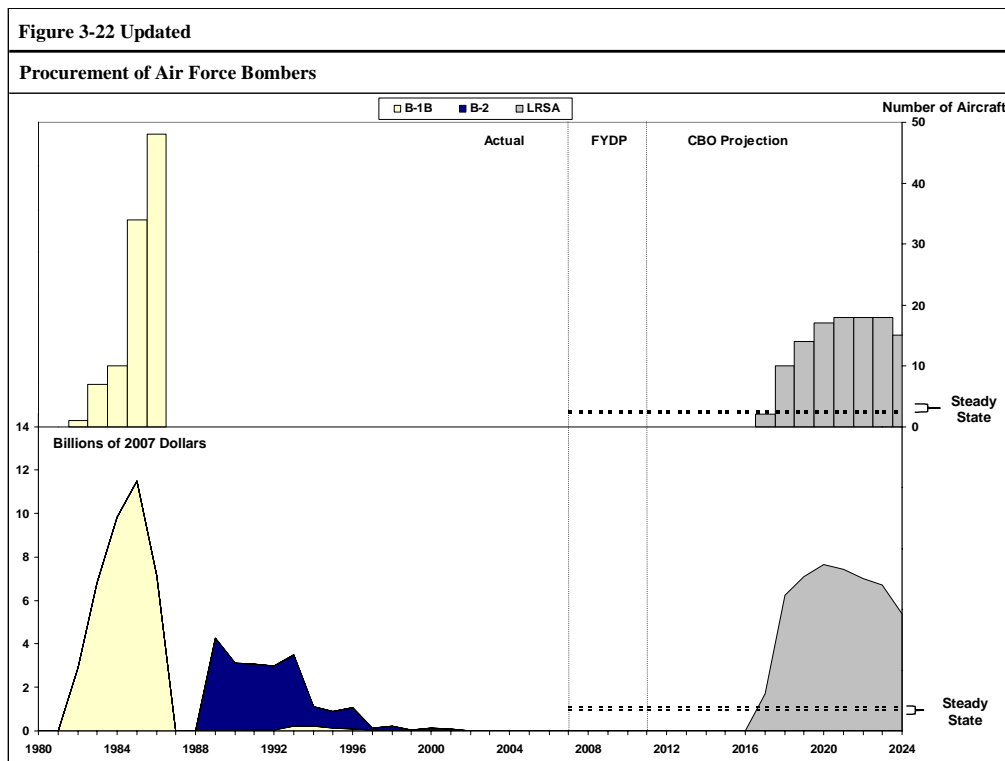
- This chart shows past and projected purchases of fighter and attack aircraft for the Air Force measured by number of aircraft (the top part of the chart) and billions of 2007 dollars invested (the bottom part of the chart).
- CBO projects that the number of purchases of tactical aircraft will be within the steady-state range beginning in 2014. However, according to CBO's estimate, the dollars expended on tactical aircraft purchases will not fall within the steady-state range because of the high unit cost of F-22s relative to other aircraft. Sustaining the F-22 fleet at a steady-state level costs nearly three times as much, per aircraft, as does sustaining the remainder of the fighter and attack aircraft fleet.
- CBO calculated the steady-state ranges displayed in the chart under the assumption that the reduction that has occurred in the planned purchases of the F-22 implies a comparable reduction in the total inventory of air-superiority fighters that the Air Force will sustain in future years.
- CBO assumes that the unmanned combat air vehicles (UCAVs) purchased near the end of the projection period will be Air Force versions of the unmanned tactical aircraft being developed by the Navy (the UCAV-N). The President's 2007 budget request shifted funding for UCAV development—which was previously run as a joint Navy-Air Force program—to the Navy. The Air Force's focus has shifted to developing a replacement bomber for fielding in about 2020. CBO has assumed that the Air Force will identify missions for a tactical UCAV but will purchase Navy versions instead of developing another aircraft.

Figure 3-21 Updated

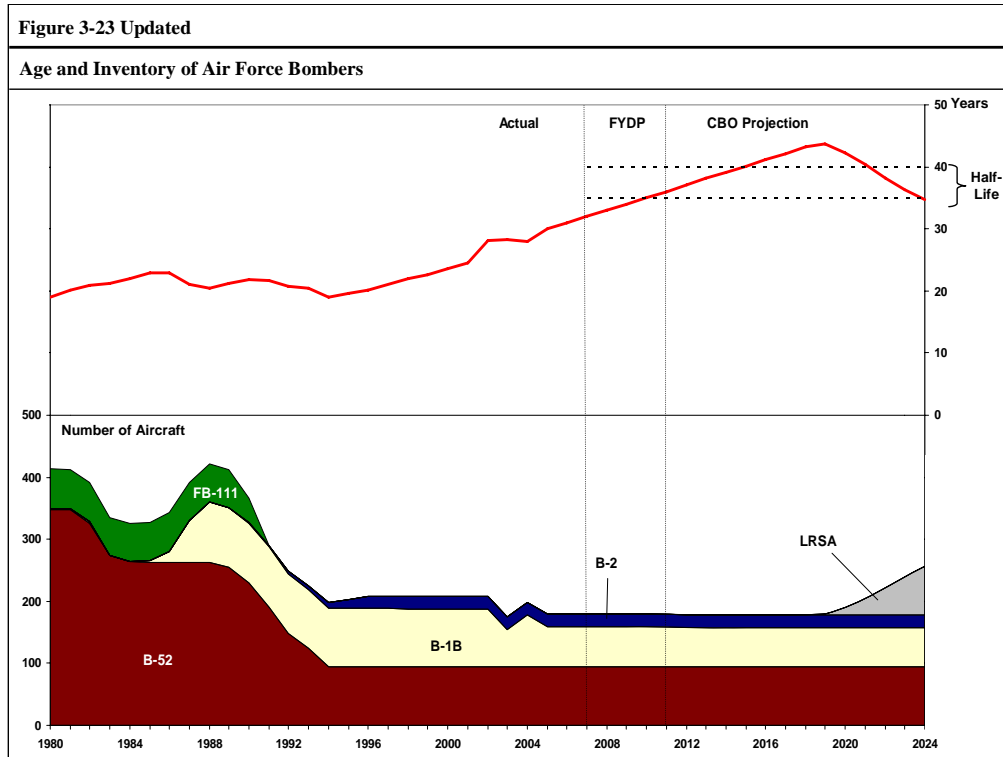
Age and Inventory of Air Force Fighter and Attack Aircraft



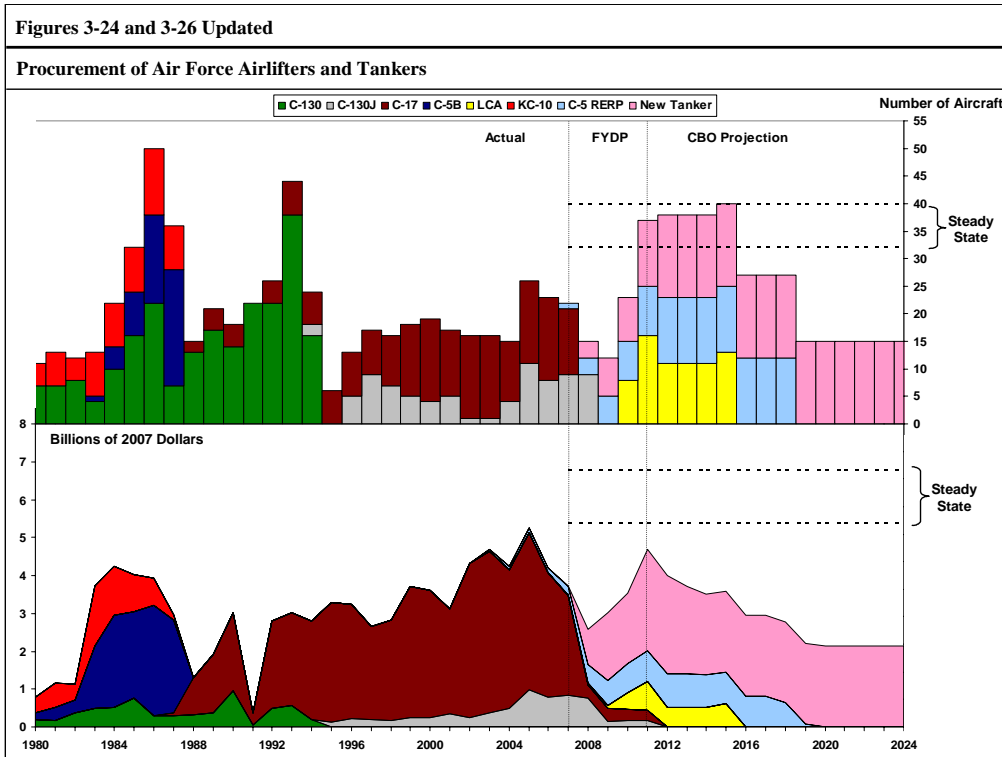
- This chart shows the average age (the top part of the chart) and inventories (bottom part of the chart) of the Air Force's fighter and attack aircraft.
- The fleet's average age increases steadily to a peak of about 24 years in 2014. After that, deliveries of Joint Strike Fighters cause the fleet's average age to decline.



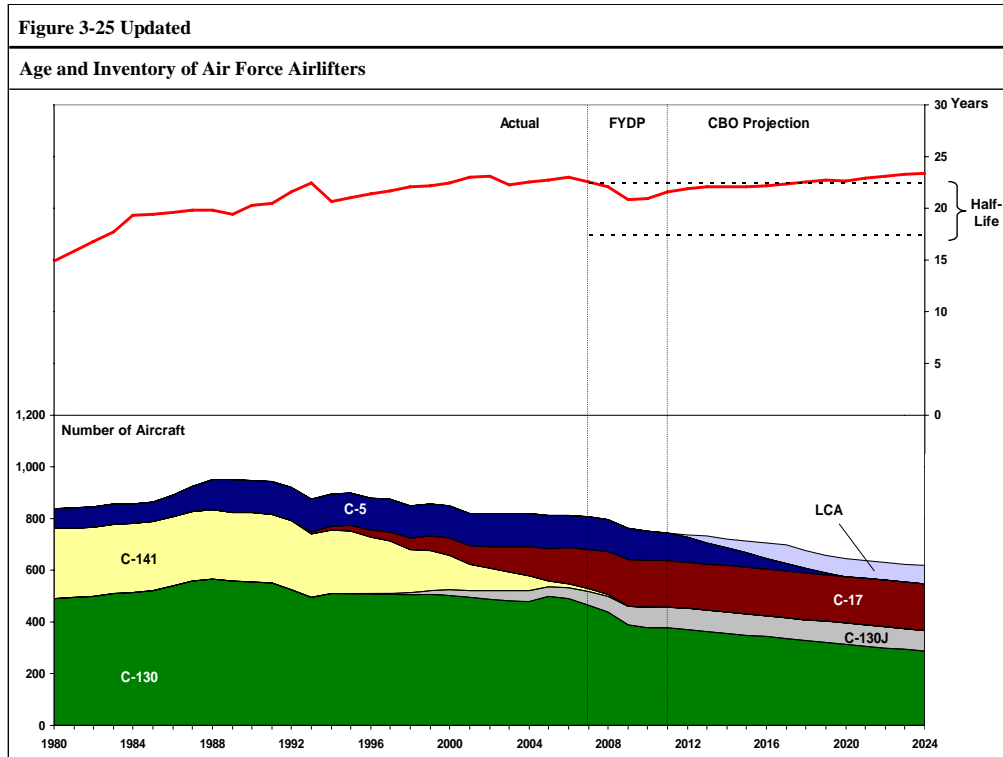
- This chart shows past and projected purchases of bombers for the Air Force as measured by number of aircraft (the top part of the chart) and billions of 2007 dollars invested (the bottom part of the chart).
- CBO projects that a new long-range strike aircraft (LRSA) will begin to be produced in 2017. (CBO's previous projection incorporated the assumption that LRSA procurement would not begin until after 2024.) This year's projection reflects language in the 2006 Quadrennial Defense Review that called for initial fielding of a new long-range strike capability by 2018.



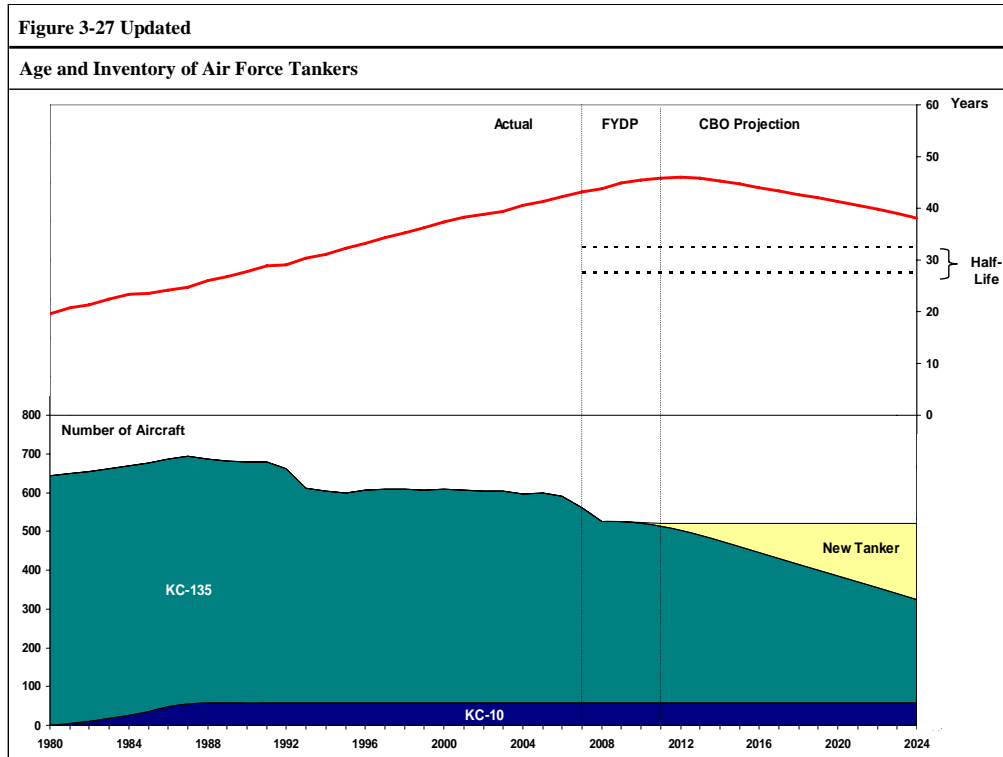
- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of bombers for the Air Force.
- The LRSA may either augment or replace portions of the existing fleet of B-52, B-1, and B-2 long-range bombers.



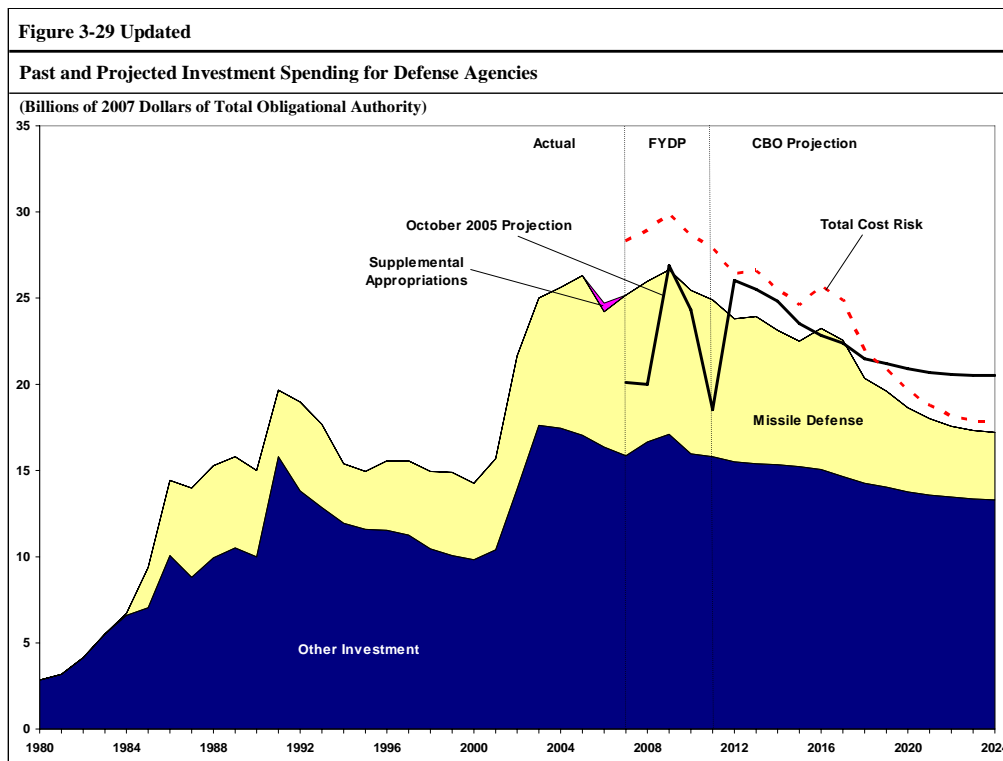
- This chart shows past and projected purchases of airlifters and tankers for the Air Force as measured by number of aircraft (the top part of the chart) and billions of 2007 dollars invested (the bottom part of the chart).
- The projection incorporates the assumption that C-17 production will end at 180 aircraft and that the entire C-5 fleet will be modernized with new engines. The 10 C-17s that the Congress added to the President's 2007 budget are not included in CBO's projection.
- In early 2007, the Air Force released a request for proposals for an airborne tanker to replace the KC-135. The two primary competitors for the initial production are expected to be Boeing (with a proposal based on its B-767 aircraft) and a team of Northrop Grumman and the European Aeronautical Defence and Space Company (with a proposal based on the Airbus A-330). CBO based its cost estimates on the smaller B-767.
- For this projection, CBO assumed that DoD would purchase new tankers at a rate that would rise to 15 aircraft a year by 2012. Procurement would continue until DoD had replaced the 466 KC-135 tankers that are anticipated to be in the fleet in 2008.



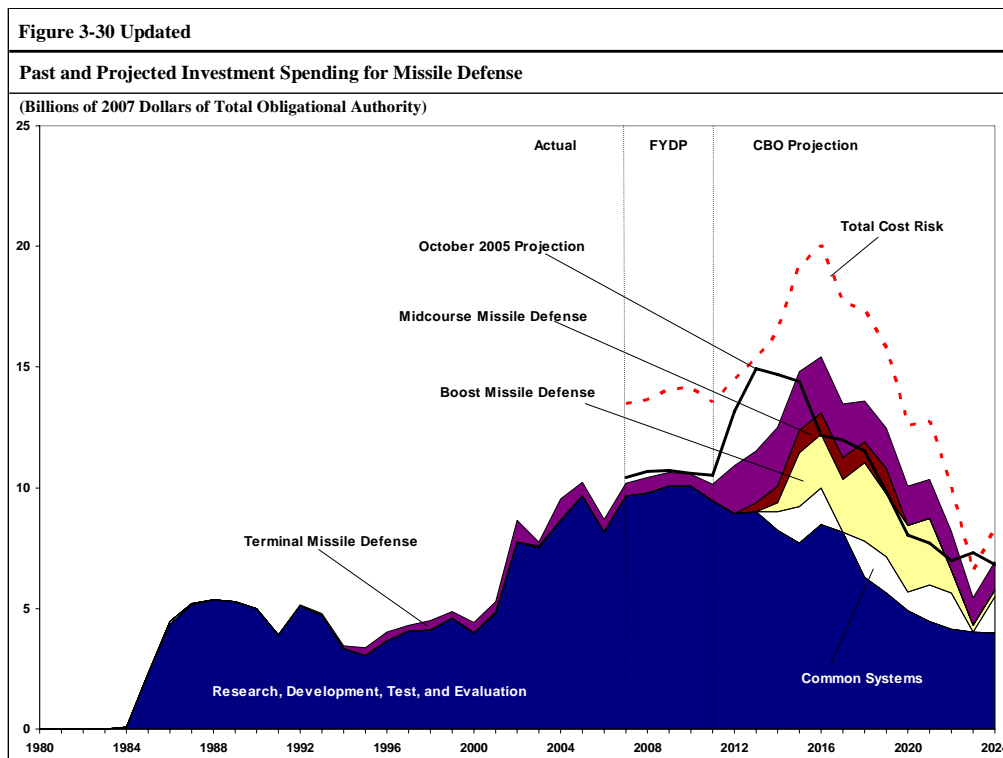
- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Air Force's airlifters.



- This chart shows the average age (the top part of the chart) and inventories (the bottom part of the chart) of the Air Force's tanker fleet.



- This chart shows the portion of DoD's budget that provides money for a variety of specialized agencies that perform advanced research, develop missile defenses, oversee special operations, and develop and manage information systems.
- The investment funding allocated to those activities in the 2007 FYDP averages about \$26 billion a year over the period from 2007 to 2011.
- In the 2006 FYDP, DoD inserted an accounting credit of about \$19 billion into the defense agency accounts over the 2006–2011 period. (That credit represented the difference between the costs of the programs set out in the FYDP and the fiscal controls that DoD uses for planning.) DoD's removal of that credit in the 2007 FYDP accounts for the differences between CBO's October 2005 projection and its current estimates for the years 2007 through 2011.



- This chart depicts past and projected investment for missile defense. In CBO's projection, total investment in missile defense peaks in 2016 at about \$15 billion and then decreases, as systems finish with the procurement phase and become operational. If, however, costs grow as they have historically, pursuing the programs included in CBO's missile defense projection will cost more than an additional \$3 billion a year, on average, peaking at about \$20 billion in 2016.
- Compared with the projections CBO made on the basis of the 2006 FYDP, the amount of the estimated peak annual investment for missile defenses is similar, but the peak occurs about two years later. That shift is driven primarily by schedule changes in the boost-phase Airborne Laser (ABL) and Kinetic Energy Interceptor (KEI) programs, and in the development of the SM-3 Block II missile for the Aegis Ballistic Missile Defense program.
- The Missile Defense Agency fielded the Initial Defense Capability of the Ground-Based Midcourse Defense System (GMD) in December 2005. CBO assumes that DoD will expand GMD beyond that initial capability, including the establishment of a third site for interceptor missiles as well as the procurement of additional interceptors, radars, and command-and-control systems.
- CBO also assumes that DoD will use a spiral development approach to deploy the Space Tracking and Surveillance System, including two proof-of-concept satellites scheduled to be launched in 2007. The operational constellation would consist of an initial set of five satellites, with the first being launched in 2014, followed by a second spiral of four additional satellites beginning in 2017.
- The ABL boost-phase system will consist of a high-energy chemical laser mounted on a Boeing 747 aircraft. CBO's projection incorporates the procurement of an operational fleet of seven ABL aircraft in addition to the two developmental aircraft.
- In some public statements, officials of the Missile Defense Agency (MDA) have indicated that, depending on the progress in development, only one of the boost-phase programs, ABL or KEI, may eventually be pursued. However, MDA's vision for KEI has grown from a boost-phase alternative to a potential next-generation replacement for midcourse or terminal interceptors, and current MDA budget documents describe KEI as a "complement" to the ABL. For the purposes of this projection, CBO has assumed that both ABL and KEI will be fully developed and fielded; actual costs could be reduced if MDA should decide to terminate one of the programs.
- CBO's projection also includes the assumption that DoD will purchase, as planned, the Patriot Advanced Capability 3 short-range missile defense system and its follow-on, the Medium Extended Air Defense System, as well as the Theater High-Altitude Area Defense system.

Appendix	
Acronyms and Abbreviations	
AAV: amphibious assault vehicle	LAV: Light Armored Vehicle
ABL: Airborne Laser	LCA: Light Cargo Aircraft
C4ISR: command, control, communications, computers, intelligence, surveillance, and reconnaissance	LCS: littoral combat ship
CBO: Congressional Budget Office	LHA(R): Landing Helicopter Assault (Replacement)
CVN: Aircraft Carrier, Nuclear-powered	LRSA: long-range strike aircraft
DoD: Department of Defense	LUH: Light Utility Helicopter
ECI: employment cost index	MDA: Missile Defense Agency
EFV: Expeditionary Fighting Vehicle	MILPERS: military personnel
FCS: Future Combat Systems	MLRS: Multiple-Launch Rocket System
FUR: Future Utility Rotorcraft	MPF(F): Maritime Prepositioning Force (Future)
FYDP: Future Years Defense Program	O&M: operation and maintenance
GDP: gross domestic product	O&S: operation and support
GMD: Ground-Based Midcourse Defense System	OMB: Office of Management and Budget
HIMARS: High-Mobility Artillery Rocket System	SAR: Selected Acquisition Report
JHL: Joint Heavy Lift	STSS: Space Tracking and Surveillance System
JSF: Joint Strike Fighter	TOA: total obligational authority
KEI: Kinetic Energy Interceptor	UCAV: unmanned combat air vehicle